MARCH 1983 NUMBER 463 -- Part I

P-A STACKS

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Solar-Geophysical Data prompt reports

Data for February 1983, January 1983 & Late Data
Explanation of Data Reports Issued as Number 462 (Supplement) February 1983

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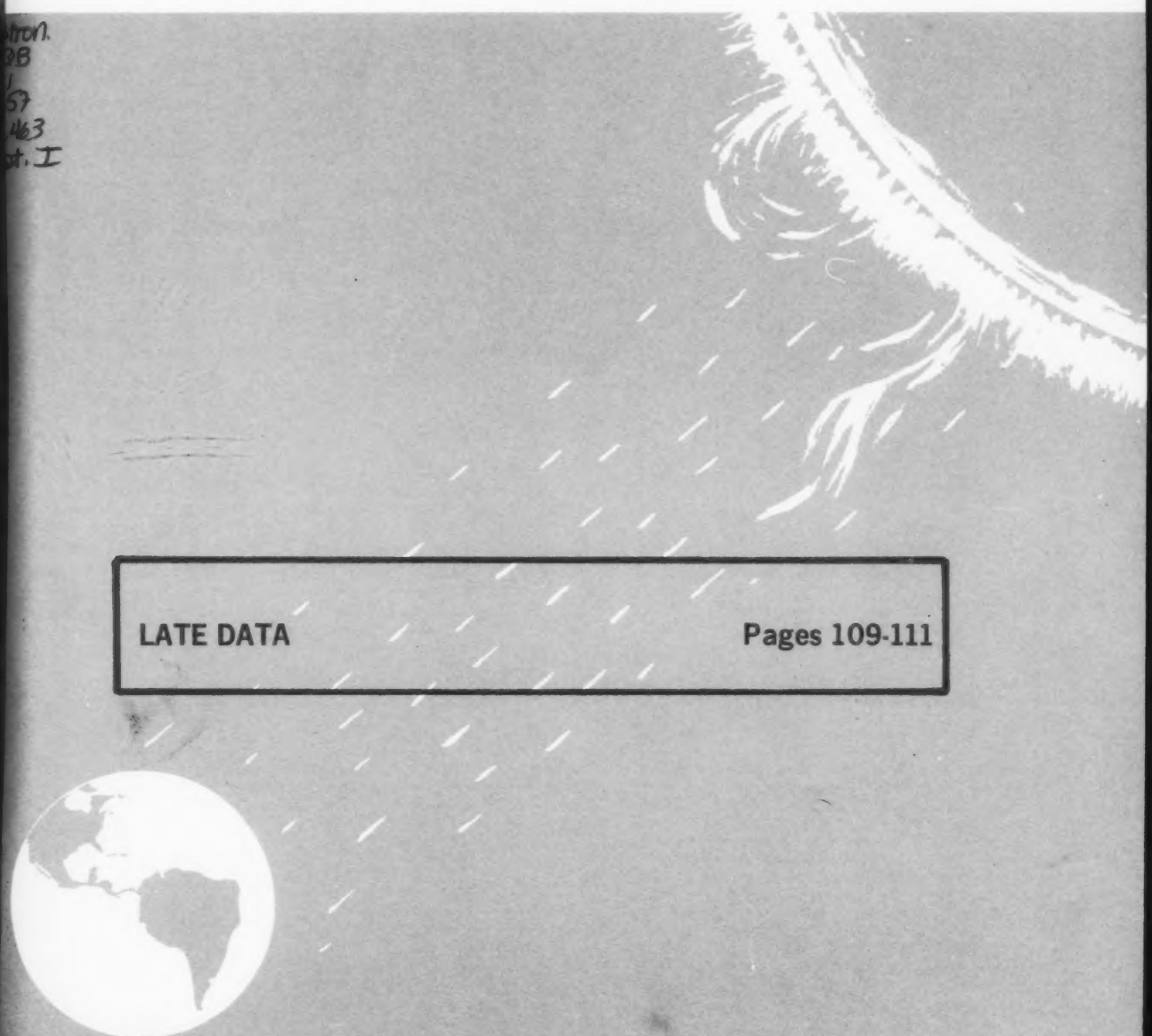

LATE DATA Pages 109-111

noaa NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION / NATIONAL ENVIRONMENTAL SATELLITE, DATA, AND INFORMATION SERVICE / NATIONAL GEOPHYSICAL DATA CENTER / BOULDER, COLORADO

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Solar - Geophysical Data

Part I (Prompt Reports)

NO. 463 MARCH 1983

DATA FOR
FEBRUARY 1983
JANUARY 1983

Michael A. Chinnery, Director
NATIONAL GEOPHYSICAL DATA CENTER
BOULDER, COLORADO

For sale through the National Geophysical Data Center, NOAA/NESDIS, E/GC2, 325 Broadway, Boulder, Colorado 80303. Subscription Price: $64.00 annually for both Part I (Prompt Reports) and Part II (Comprehensive Reports) or $32.00 annually for either part. Annual supplement containing explanation is included. For foreign mailing add $42.00 for both parts or $21.00 for either part. Make checks and money orders payable to: Department of Commerce, NOAA/NGDC.

For obtaining bulletins on a data exchange basis, send request to: World Data Center A for Solar-Terrestrial Physics, NOAA/NESDIS/NGDC, E/GC2, 325 Broadway, Boulder, Colorado 80303.

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SOLAR-GEOPHYSICAL DATA

No. 463

Issued in two parts

Helen E. Coffey, Editor

Joe H. Allen, Chief
Solar-Terrestrial Physics Division

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83 5 503AA5 2 013 1 SN 2361

DETAILED COVERAGE FOR 1982-83 PUBLISHED IN "SOLAR-GEOPHYSICAL DATA"

CODE	KIND OF OBSERVATION	1982 FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	1983 JAN	FEB
A.	**SOLAR AND INTERPLANETARY PHENOMENA**													
A.1	Sunspot Drawings	452A 50	453A 40	454A 44	455A 64	456A 58	457A 50	458A 48	459A 44	460A 52	461A 58	462A 44	463A 40	
A.2aa	International Provisional Relative Sunspot Numbers R_I	451A 11	452A 11	453A 11	454A 9	455A 11	456A 9	457A 9	458A 9	459A 9	460A 11	461A 11	462A 11	463A 9
A.2c	American Relative Sunspot Numbers Ra	451A 11	452A 11	453A 11	454A 9	455A 11	456A 9	457A 9	458A 9	459A 9	460A 11	461A 11	462A 11	463A 9
A.3a	Mt. Wilson Magnetograms	452A 50	453A 40	454A 44	455A 64	456A 58	457A 50	458A 48	459A 44	460A 52	461A 58	462A 44	463A 40	
A.3b	Mt. Wilson Magnetic Characteristics of Sunspots	452A106	453A102	454A104	455A126	457A166	457A112	458A110	459A105	460A 83	461A 88	462A 75	463A 71	
A.3c	Kitt Peak Magnetograms	452A 50	453A 40	454A 44	455A 64	456A 58	457A 50	458A 48	459A 44	460A 52	461A 58	462A 44	463A 40	
A.3d	Mean Solar Magnetic Field (Stanford)	451A 50	452A 42	453A 32	454A 32	455A 56	456A 48	457A 42	458A 38	459A 36	460A 44	461A 52	462A 34	463A 30
A.3e	Stanford Magnetograms	452A 50	453A 40	454A 44	455A 64	456A 58	457A 50	458A 48	459A 44	460A 52	461A 58	462A 44	463A 40	
A.4	H-alpha Filtergrams	452A 50	453A 40	454A 44	455A 64	456A 58	457A 50	458A 48	459A 44	460A 52	461A 58	462A 44	463A 40	
A.5	Calcium Plage Drawings - Mt. Wilson or Big Bear	451A 58	452A 50	453A 40	454A 44	455A 64	456A 58	457A 50	458A 48	459A 44	460A 52	461A 58	462A 44	463A 40
A.5a	Calcium Plage (Mt. Wilson or Big Bear) and Sunspot Regions	452A106	453A102	454A104	455A126	457A166	457A112	458A110						
A.5b	Mt. Wilson or Big Bear Daily Calcium Plage Indices	452A118	453A113	454A117	455A138	457A176	457A122	458A119						
A.6	H-alpha Synoptic Charts	452A 46	453A 36	454A 36	456A 52	456A 53	457A 46	458A 42	459A 40	460A 47	461A 54	462A 36	463A 45	
A.6b	Synoptic Chart and Active Regions (Paris)	459B 91	460B154	460B155	462B 92	463B 94								
A.6c	Stanford Solar Magnetic Field Synoptic Charts	452A 47	453A 37	454A 38	455A 61	456A 55	458A 43	458A 44	460A 48	460A 49	461A 55	462A 38	463A 37	
A.6d	Kitt Peak Solar Magnetic Field Synoptic Charts	452A 48	453A 38	454A 40	455A 62	456A 56	457A 48	458A 45	459A 42	460A 50	461A 56	462A 40	463A 38	
A.6e	Mass Ejections from the Sun	456B 83	457B 73	458B 40	459B 37	460B113	461B 94	462B 52	463B 43					
A.7g	Helium Synoptic Maps (KPNO)	452A 49	45A144	454A 42	455A 63	456A 56	457A 49	458A 47	459A 43	460A 51	461A 57	462A 42	463A 39	
A.7h	Coronal Line Emission (Sac Peak)	452A 50	453A 40	454A 44	455A 64	456A 58	457A 50	458A 48	459A 44	460A 52	461A 58	462A 44	463A 40	
A.8ia	2800 MHz - Daily Values of Solar Flux (ARO-Ottawa)	451A 11	452A 11	453A 11	454A 9	455A 11	456A 9	457A 9	458A 9	459A 9	460A 11	461A 11	462A 11	463A 9
A.8ac	2800 MHz - Daily Values of Adj. Solar Flux (ARO-Ottawa)	451A 11	452A 11	453A 11	454A 9	455A 11	456A 9	457A 9	458A 9	459A 9	460A 11	461A 11	462A 11	463A 9
A.8g	Daily Values of Adjusted Solar Flux (AFGL)	451A 11	452A 11	453A 11	454A 9	455A 11	456A 9	457A 9	458A 9	459A 9	460A 11	461A 11	462A 11	463A 9
A.10a	169 MHz - Interferometric Observations (Nancay)	452A162	452A 28	455A162	454A 21	455A 30			458A 25	459A 26	460A 28	461A 32	462A 24	463A 20
A.10c	21 cm East-West Solar Scans (Fleurs)	451A 33	452A 31	---	---	455A 33	456A 30	457A 29	458A 28	459A 28	460A 31	461A 35	462A 27	463A 25
A.10d	43 cm East-West Solar Scans (Fleurs)	451A 34	452A 32	---	---	---	456A 30	457A 30	458A 29	459A 29	460A 32	461A 36	462A 28	463A 24
A.10e	10.7 cm East-West Solar Scans (Ottawa-ARO)	451A 32	452A 30	453A 25	454A 23	455A 32	456A 29	457A 28	458A 27	459A 27	460A 30	461A 34	462A 26	463A 22
A.10f	3 cm East-West Solar Scans (Toyokawa)	451A 31	452A 29	453A 24	454A 22	455A 31	456A 28	457A 27	458A 26		460A 29	461A 33	462A 25	463A 21
A.11g	Solar X-ray (SMS/GOES) (graphs)	456B 78	457B 67	458B 35	459B 31	461B 98	461B 88	462B 46	463B 38					
A.12e	Energetic Solar Particles (IMP H & J) 1980-81													
A.13d	Solar Wind from IPS Measurements	451A 45	---	---	---	---	---	---	---	---	---	---	---	---
A.13e	Solar Plasma (IMP H & J)	457B126	457B 66	458B 34										
A.17	Interplanetary Magnetic Field (Pioneer 12)	452A123	455A175	455A175	455A142	---	457A129	458A124	459A130	461A136	462A132			
A.17c	Inferred IP Magnetic Field	451A 48	452A 40	453A 30	454A 30	455A 54	456A 46	457A 40	458A 36	459A 34	460A 42	461A 50	462A 32	463A 28
B.	**IONOSPHERIC (AND RADIO WAVE PROPAGATION) PHENOMENA**													
B.52	Graphs of Transmission Frequency Range	452A158	453A144	454A140	455A158	456A156	457A162	458A148	459A156	460A128	461A132	462A128	463A106	
B.53	Quality Figures Based on Frequency Ranges	452A160	453A143	454A142	455A157	456A158	457A161	458A150	459A158	460A130	461A131	462A130	463A106	
C.	**FLARE-ASSOCIATED EVENTS**													
C.1a	Optical Observations Flares	451A 16	452A 16	453A 16	454A 14	455A 16	456A 14	457A 14	458A 14	459A 14	460A 16	461A 16	462A 16	463A 14
C.1ba	Optical Observations Flares (Standardized Data) 1980				457B 76	459B 39	460B116	462B 56	463B 46					
C.1d	Flare Patrol Observations	451A 30	452A 27	453A 23	454A 20	455A 29	456A 27	457A 26	458A 24	459A 25	460A 27	461A 31	462A 23	463A 19
C.1d	Flare Patrol Observations 1980				457B115	459B 87	460B151	462B 89	463B 91					
C.1e	Flare Indices (by day) 1980				457B114	459B 86	460B150	462B 88	463B 90					
C.3	Solar Radio Waves - Outstanding Occurrences*	456B 4	457B 4	458B 4	459B 4	460B 4	460B 4	462B 4	463B 4					
	Solar Radio Waves - Fixed Frequencies - Selected	451A 35	452A 33	453A 26	454A 24	455A 34	456A 31	457A 31	458A 30	459A 30	460A 33	461A 37	462A 29	463A 25
C.4a	Solar Radio Spectral Obs. (Fort Davis)	452A124	453A118	454A121	455A143	456A124	457A130	458A125	459A131	460A106	461A109			
C.4d	Solar Radio Spectral Obs. (Culgoora)	452A124	455A163	455A170	455A143	456A124	457A130	458A125	459A131	460A106	461A109	462A 98	463A 92	
C.4e	Solar Radio Spectral Obs. (Weissenau)	452A124	453A118	454A121	455A143	456A124	457A130	458A125	459A131	460A106	461A109	462A 98	463A 92	
C.4f	Solar Radio Spectral Obs. (Sagamore Hill)	452A124	453A118	454A121	455A143	456A124	457A130	458A125	459A131	460A106	461A109	462A 98	463A 92	
C.4h	Solar Radio Spectral Obs. (Owingeloo)										461A109	462A 98	463A 92	
C.4i	Solar Radio Spectral Obs. (Bleien)	452A124	454A145											
C.4k	Solar Radio Spectral Obs. (Learmonth)	452A124	453A118	454A121	455A143	456A124	457A130	458A125	459A131	460A106	461A109	462A 98	463A 92	
C.4l	Solar Radio Spectral Obs. (Palehua)	452A124	453A118	454A121	455A143	456A124	457A130	458A125	459A131	460A106	461A109	462A 98	463A 92	
C.5e	Solar X-ray (SMS/GOES) (graphs)	456B 78	457B 67	458B 35	459B 31	461B 98	461B 88	462B 46	463B 38					
C.6	Sudden Ionospheric Disturbances	452A119	453A114	454A118	455A139	456A118	457A123	458A120	459A126	460A102	461A103	462A 92	463A 89	
D.	**GEOMAGNETIC AND MAGNETOSPHERIC PHENOMENA**													
D.1a	Geomagnetic Indices Kp, Kn, Ks, Km, Ap, aa, Cp	452A152	453A136	454A134	455A153	456A149	457A154	459A162	459A150	461A136	461A126	462A121	463A102	
D.1ba	27-day Chart of Kp Indices	452A154	453A138	454A136	455A155	456A151	457A156	458A144	459A152	460A125	461A128	462A123	463A104	
D.1c	27-day Chart of C9	462A124	462A124	462A124	462A124	462A124	462A124	462A124	462A124	462A124	462A124	462A124		
D.1d	Principal Magnetic Storms	452A155	453A141	454A139	455A156	456A154	457A159	458A147	459A153	460A126	461A129	462A125	463A105	
D.1f	Sudden Commencement and Solar Flare Effects	452A157	453A142	456A160		456A155	457A160	459A164	459A155	460A127	461A130	462A127		
D.1g	Equatorial Indices Dst	453A148	453A140	454A138	456A160	456A153	457A158	458A146	460A135	462A139	462A140	463A111		
D.1h	Geomagnetic Substorm Log (Boulder)	451A 52	452A 44	453A 34	454A 34	455A 58	456A 49	457A 43	458A 40	459A 38	460A 41	461A 49	462A 31	463A 31
F.	**COSMIC RAYS**													
F.1a	Cosmic Ray Neutron Counts (Deep River)	452A151	453A135	455A177	455A152	456A148	457A153	459A160	459A149	460A119	462A134	462A116	463A101	
F.1b	Cosmic Ray Neutron Counts (Climax)	454A150	454A150	454A131	457A176	457A178	462A133	462A133	462A133	462A134	462A134	462A116		
F.1e	Cosmic Ray Neutron Counts (Alert)	452A151	453A135	455A177	455A152	456A148	457A153	459A160	459A149	460A119	462A134	462A116	463A101	
F.1h	Cosmic Ray Neutron Counts (Thule)	452A151	453A135	454A131	455A152	456A148	457A153	458A143	459A149	460A119	461A123	462A116	463A101	
F.1i	Cosmic Ray Neutron Counts (Kiel)	452A151	453A135	454A131	457A178	457A178	457A153	458A143	459A149	460A119	461A123	462A116	463A101	
F.1j	Cosmic Ray Neutron Counts (Tokyo)	452A151	453A135	454A131	457A178	457A178	457A153	458A143	459A149	460A119	461A123	462A116	463A101	
F.1l	Cosmic Ray Neutron Counts (Huancayo)	454A150	454A150	457A176	457A178	462A133	462A133	462A133	462A133	462A134	462A134			
H.	**MISCELLANEOUS**													
H.60	IUWDS Alert Decisions	451A 5	452A 5	453A 5	454A 4	455A 5	456A 4	457A 4	458A 4	459A 4	460A 5	461A 4	462A 5	463A 5

Notes:

"452A 50" listed under 1982 Feb means that the sunspot drawings for Feb 1982 were contained in Solar-Geophysical Data Number 452 - Part I, beginning on page 50.

A = Part I, B = Part II.

----- = no data available.
blank = data not yet received.

*Solar radio noise bursts observed at Athens, Learmonth, Manila, Palehua and Sagamore Hill during Aug 1979 through Oct 1980 appear in Solar-Geophysical Data, Number 461, Part II, pages 103-2135.

SGD 463 Part I (Prompt)

FEBRUARY 1983 DATA

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ALERT PERIODS
INTERNATIONAL URSIGRAM AND WORLD DAYS SERVICE
FEBRUARY 1983

PRESTO MESSAGES (THE RAPID REPORT OF MAJOR EVENTS)

03 FEBRUARY 1983 TOYOKAWA	03/0731Z TENFLARE 3700 FLUX UNITS 03/0540Z IN PROGRESS
03 FEBRUARY 1983 BOULDER	03/1410Z XRAY EVENT X4/3B S19W08 03/0539Z DURATION 41 MINUTES
03 FEBRUARY 1983 BOULDER	03/1410Z TENFLARE 2800 FLUX UNITS 03/0612Z DURATION 189 MINUTES
04 FEBRUARY 1983 BOULDER	04/0330Z PROTON EVENT BEGAN AT 04/0040Z 25 PROTONS/CM2/SEC/STER >=10 MEV
04 FEBRUARY 1983 BOULDER	04/1855Z A>=50 EXPECTED 04-05 FEBRUARY
05 FEBRUARY 1983 KAKIOKA	05/0100Z MAGSTORM 04/1615Z
06 FEBRUARY 1983 TOYOKAWA	06/0020Z TENFLARE 100 FLUX UNITS 05/0658Z DURATION 7 MINUTES
22 FEBRUARY 1983 BOULDER	22/2042Z TENFLARE186 FLUX UNITS 22/1926Z DURATION 9 MINUTES

ALERT PERIODS
INTERNATIONAL URSIGRAM AND WORLD DAYS SERVICE
FEBRUARY 1983

STRATWARM MESSAGES

31 JANUARY STRATWARM ALERT /TUESDAY/ STRATWARM EXISTS. TEMPERATURE GRADIENT OVER POLAR REGION REVERSED ABOVE 30 KM. STRONG ALEUTIAN ANTICYCLONE SLOPING NORTHWEST WITH HEIGHT TEMPERATURES MODERATING AT STRATOSPHERIC LEVELS. LARGEST CHANGE IN LAST THREE DAYS INVOLVES MOVEMENT OF COLD POLAR LOW FROM EURASIAN ARCTIC TO OVER GREENLAND.

01 FEBRUARY STRATWARM ALERT /WEDNESDAY/ STRATWARM EXISTS. WARMING CONTINUES WITH TEMPERATURES MODERATING AND ALEUTIAN ANTICYCLONE REMAINING STRONG.

02 FEBRUARY STRATWARM ALERT /THURSDAY/ STRATWARM EXISTS. FURTHER DECREASE IN WARMING 25-60 KM. ALEUTIANS ANTICYCLONE ALSO DIMINISHED IN INTENSITY.

03 FEBRUARY STRATWARM ALERT /FRIDAY/ STRATWARM EXISTS. WARMING INTENSIFYING OVER EUROPE AT 30 KM. SLOPING NORTHWEST TO ICELAND AT 50 KM.

04 FEBRUARY STRATWARM ALERT /SATURDAY/ STRATWARM EXISTS. WARMING AND ANTICYCLONE OVER EUROPE MOVING NORTHEASTWARD EXPECTED TO AMPLIFY ALEUTIAN ANTICYCLONE IN NEXT FEW DAYS.

07 FEBRUARY STRATWARM ALERT /TUESDAY/ STRATWARM EXISTS. STRONG WARMING 20-60 KM. OVER EUROPE AND SIBERIA TO ALASKA.

08 FEBRUARY STRATWARM ALERT /WEDNESDAY/ STRATWARM EXISTS. STRONG WARMING CONTINUES 20-60 KM. OVER POLAR REGIONS EUROPE TO SIBERIA TO ALASKA.

09 FEBRUARY STRATWARM ALERT /THURSDAY/ STRATWARM EXISTS. WARM REGION CONTINUES EURASIAN TO ALASKAN ARCTIC.

10 FEBRUARY STRATWARM ALERT /FRIDAY/ STRATWARM EXISTS. WARMING CONTINUES. LITTLE CHANGE EURASIAN TO ALASKAN ARCTIC.

25 FEBRUARY STRATWARM ALERT /SATURDAY/ STRATWARM EXISTS. THIRD EPISODE THIS WINTER OF STRONG WARMING. NEW MAXIMUM OVER CANADIAN TO ASIAN ARCTIC. WARM AIR DOMINANT OVER ARCTIC REGION ABOVE 25 KM.

ALERT PERIODS
INTERNATIONAL URSIGRAM AND WORLD DAYS SERVICE
SUMMARY OF THE GEOALERT MESSAGES FEBRUARY 1983

NO	DI	DO	WOLF	10CM	A	LOC	TOT	M	X	OUTSTANDING EVENTS	DA	LOC	DE	ALERTS
032	01	31	182	162	017	S08W51	4	0	0		01	S08W51	Q	SOLQUIET
						N05W47	1	0	0			N05W47	E	MAGQUIET
						N05W24	1	0	0			N05W24	Q	STRATWARM
						S17W03	0	0	0			S17W03	Q	
						S14E11	3	0	0			S14E11	E	
						S18E23	11	0	0			S18E23	E	
						N21E54	0	0	0			N21E54	Q	
033	02	01	168	168	012	S08W66	0	0	0		02	S08W66	E	SOLQUIET
						N05W61	0	0	0			N05W61	Q	MAGQUIET
						N06W37	0	0	0			N06W37	Q	STRATWARM
						S16W14	0	0	0			S16W14	Q	
						S14E01	0	0	0			S14E01	Q	
						S18E10	8	0	0			S18E10	E	
						N21E41	1	0	0			N21E41	Q	
						S15E57	1	0	0			S15E57	Q	
034	03	02	139	165	005	S08W82	1	0	0		03	S08W82	Q	SOLQUIET
						N05W78	0	0	0			N05W78	Q	MAGQUIET
						N06W50	0	0	0			N06W50	Q	STRATWARM
						S15W29	0	0	0			S15W29	Q	
						S14W15	1	0	0			S14W15	Q	
						S17W04	6	0	0			S17W04	E	
						S17E34	5	0	0			S17E34	Q	
035	04	03	149	150	008	N06W64	0	0	0	PRESTO XRAY EVENT X4/3B S19W08	04	N06W64	Q	SOLALERT
						S15W40	0	0	0	03/0539Z DURATION 41 MINUTES.		S15W40	Q	04/06
						S14W28	2	0	0	TENFLARE 2800 FLUX UNITS 03/		S14W28	Q	MAGALERT
						S17W17	5	0	1	0612Z DURATION 189 MINUTES.		S17W17	E	04/05
						S07E22	0	0	0			S07E22	Q	STRATWARM
						S17E30	2	0	0			S17E30	Q	
						S09E43	0	0	0			S09E43	Q	
036	05	04	156	161	050	N06W79	1	0	0	PRESTO MAGSTORM 04/1615Z.	05	N06E79	Q	SOLALERT
						S13W48	0	0	0	PROTON EVENT BEGAN 04/0040Z		S13W48	Q	05/06
						S13W38	2	0	0	25 PROTONS/CM2/SEC/STER >=10		S13W38	Q	MAGALERT
						S16W31	4	0	0	MEV. A >=50 EXPECTED 04-05		S16W31	E	05/06
						S07E08	1	0	0	FEBRUARY.		S07E08	Q	STRATWARM
						S17E16	5	0	0			S17E16	Q	
						S10E26	1	0	0			S10E26	Q	
037	06	05	150	159	075	N07W91	0	0	0	PRESTO TENFLARE 100 FLUX UNITS	06	N07W91	Q	SOLALERT
						S14W60	0	0	0	05/0658Z DURATION 7 MINUTES.		S14W60	Q	06/07
						S13W49	2	0	0			S13W49	Q	MAGALERT
						S17W43	10	2	0			S17W43	A	06/07
						S07W07	1	0	0			S07W07	Q	
						S18E02	8	0	0			S18E02	E	
						S10E12	1	0	0			S10E12	Q	
038	07	06	141	157	050	S14W73	0	0	0		07	S14W73	Q	SOLALERT
						S13W61	2	0	0			S13W61	Q	07/08
						S16W55	2	0	0			S16W55	A	MAGNIL
						N21W30	0	0	0			N21W30	Q	
						S07W18	0	0	0			S07W18	Q	
						S17W11	2	0	0			S17W11	A	
						S09E01	0	0	0			S09E01	Q	
039	08	07	084	146	040	S17W70	3	0	0		08	S17W70	E	SOLALERT 08
						S07W31	1	0	0			S07W31	Q	MAGQUIET
						S18W25	0	0	0			S18W25	E	STRATWARM
						S10W13	1	0	0			S10W13	Q	
040	09	08	111	137	018	S17W81	3	0	0		09	S17W81	Q	SOLNIL
						S17E62	0	0	0			S17E62	Q	MAGQUIET
						S07W42	0	0	0			S07W42	Q	STRATWARM
						S18W37	0	0	0			S18W37	Q	

ALERT PERIODS
INTERNATIONAL URSIGRAM AND WORLD DAYS SERVICE
SUMMARY OF THE GEOALERT MESSAGES FEBRUARY 1983

NO	DI	DO	WOLF	10CM	A	LOC	TOT	M	X	OUTSTANDING EVENTS	DA	LOC	DE	ALERTS
						S13W30	0	0	0			S13W30	Q	
						S09W23	2	0	0			S09W23	Q	
						S12W07	0	0	0			S12W07	Q	
041	10	09	107	125	011	S18W94	4	0	0		10	S18W94	Q	SOLQUIET
						S18W50	0	0	0			S18W50	Q	MAGQUIET
						S12W42	0	0	0			S12W42	Q	STRATWARM
						S08W36	1	0	0			S08W36	Q	
						S04W15	0	0	0			S04W15	Q	
						S18E48	0	0	0			S18E48	Q	
						N03E66	0	0	0			N03E66	Q	
						S12E71	0	0	0			S12E71	Q	
042	11	10	034	160	019	S18W64	0	0	0		11	S18W64	Q	SOLQUIET
						N03E53	0	0	0			N03E53	Q	MAGQUIET
														STRATWARM
043	12	11	032	110	014	S18W77	0	0	0		12	S18W77	Q	SOLQUIET
						N03W40	0	0	0			N03W40	Q	MAGQUIET
044	13	12	025	103	030	S20W91	1	0	0		13	S20W91	Q	SOLQUIET
						N03E26	0	0	0			N03E26	Q	MAGQUIET
045	14	13	016	098	030	N03E14	0	0	0		14	N03E14	Q	SOLQUIET
														MAGALERT
														15/16
046	15	14	015	094	024	N03E01	0	0	0		15	N03E01	Q	SOLQUIET
														MAGALERT
														15/XX
047	16	15	034	091	021	N16W45	0	0	0		16	N16W45	Q	SOLQUIET
						N03W12	0	0	0			N03W12	Q	MAGALERT
						S17E51	0	0	0			S17E51	Q	16/XX
048	17	16	048	092	019	N14W58	0	0	0		17	N14W58	Q	SOLQUIET
						N03W25	0	0	0			N03W25	Q	MAGNIL
						S17E38	1	0	0			S17E38	Q	
						S11E75	0	0	0			S11E75	Q	
049	18	17	038	094	014	S17E28	0	0	0		18	S17E28	Q	SOLQUIET
						S12E62	0	0	0			S12E62	Q	MAGQUIET
						S09E80	0	0	0			S09E80	Q	
050	19	18	046	100	012	S17E14	7	0	0		19	S17E14	E	SOLQUIET
						S12E49	0	0	0			S12E49	Q	MAGQUIET
						S09E66	0	0	0			S09E66	Q	
051	20	19	054	097	012	S17W33	0	0	0		20	S17W33	Q	SOLQUIET
						S16E01	0	0	0			S16E01	Q	MAGQUIET
						S12E35	0	0	0			S12E35	Q	
						S09E53	0	0	0			S09E53	Q	
052	21	20	050	100	025	S15W15	2	0	0		21	S15W15	Q	SOLQUIET
						S12E22	0	0	0			S12E22	Q	MAGQUIET
						S09E40	0	0	0			S09E40	Q	
						N14E63	0	0	0			N14E63	Q	
053	22	21	062	104	026	S16W29	0	0	0		22	S16W29	Q	SOLQUIET
						S13E08	0	0	0			S13E08	Q	MAGQUIET
						S10E18	0	0	0			S10E18	Q	
						S09E27	0	0	0			S09E27	Q	
						N14E51	0	0	0			N14E51	Q	
054	23	22	061	109	017	S12W05	0	0	0	PRESTO TENFLARE 186 FLUX UNITS	23	S12W05	Q	SOLALERT
						S09E04	0	0	0	22/1926Z DURATION 9 MINUTES		S09E04	Q	23/XX
						S08E13	1	0	0			S08E13	Q	MAGQUIET
						N15E38	0	0	0			N15E38	Q	

ALERT PERIODS
INTERNATIONAL URSIGRAM AND WORLD DAYS SERVICE
SUMMARY OF THE GEOALERT MESSAGES FEBRUARY 1983

NO	DI	DO	WOLF	10CM	A	LOC	TOT	M	X	OUTSTANDING EVENTS	DA	LOC	DE	ALERTS
						N22E42	0	0	0			N22E42	Q	
055	24	23	071	114	013	S13W17	0	0	0		24	S13W17	Q	SOLNIL
						S08E01	0	0	0			S08E01	Q	MAGQUIET
						N15E24	0	0	0			N15E24	Q	
						N17E68	0	0	0			N17E68	Q	
						S16E75	1	0	0			S16E75	E	
056	25	24	078	117	012	S08W12	0	0	0		25	S08W12	Q	SOLQUIET
						N14E10	0	0	0			N14E10	Q	MAGQUIET
						N17E57	0	0	0			N17E57	Q	
						S16E58	3	0	0			S16E58	E	
						S18E74	0	0	0			S18E74	Q	
057	26	25	098	123	006	S08W25	0	0	0		26	S08W25	Q	SOLQUIET
						S08W08	0	0	0			S08W08	Q	MAGQUIET
						N13W03	1	0	0			N13W03	Q	STRATWARM
						N16E04	0	0	0			N16E04	Q	
						N16E43	1	0	0			N16E43	Q	
						S16E47	2	0	0			S16E47	Q	
						S18E62	0	0	0			S18E62	Q	
058	27	26	110	129	004	S08W39	0	0	0		27	S08W39	Q	SOLQUIET
						S08W23	0	0	0			S08W23	Q	MAGQUIET
						N13W16	1	0	0			N13W16	Q	
						N16W09	0	0	0			N16W09	Q	
						N16E30	1	0	0			N16E30	Q	
						S16E34	0	0	0			S16E34	E	
						S18E48	0	0	0			S18E48	Q	
						S15E80	0	0	0			S15E80	Q	
059	28	27	148	141	007	S11W71	5	0	0		28	S11W71	Q	SOLQUIET
						S08W52	0	0	0			S08W52	Q	MAGQUIET
						S08W37	1	0	0			S08W37	Q	
						N12W30	0	0	0			N12W30	Q	
						N16W21	0	0	0			N16W21	Q	
						S15E13	0	0	0			S15E13	Q	
						N16E14	1	0	0			N16E14	Q	
						S15E21	4	0	0			S15E21	Q	
						S18E35	0	0	0			S18E35	E	
						S16E69	3	0	0			S16E69	Q	
060	01	28	148	140	007	S10W81	1	0	0		01	S10W81	Q	SOLQUIET
						S08W66	0	0	0			S08W66	Q	MAGQUIET
						S08W51	0	0	0			S08W51	Q	
						N12W45	4	0	0			N12W45	Q	
						S15W01	0	0	0			S15W01	Q	
						N15E02	0	0	0			N15E02	Q	
						S15E09	6	0	0			S15E09	Q	
						S19E23	0	0	0			S19E23	Q	
						S16E56	4	0	0			S16E56	Q	
						S20E61	3	0	0			S20E61	Q	

NO=MESSAGE SERIAL NUMBER, DI=DATE OF ISSUE, DO=DATE OF OBSERVATION, WOLF= WOLF NUMBER, 10CM= 10CM SOLAR FLUX, A=A INDEX, LOC=LOCATION LAT-LONG, TOTAL=TOTAL NUMBER OF FLARES, M= NUMBER OF M FLARES, X=NUMBER OF X FLARES, DA= DATE OF FORECAST, DE=DESCRIPTION, Q=QUIET, E=ERUPTIVE, A=ACTIVE, P=PROTON.

RELATIVE SUNSPOT NUMBERS

International* (R_I)

Day	1982 Final Mar	Apr	May	Jun	Jul	Aug	Sep	1982 Prov Oct	Nov	Dec	1983 Prov Jan	Feb
01	168	145	63	70	50	55	115	132	80	88	68	94
02	174	115	57	83	41	68	124	164	88	133	77	85
03	175	151	46	94	33	68	146	143	75	124	55	88
04	177	137	58	104	42	81	176	120	100	137	63	94
05	163	112	63	111	39	97	160	109	100	137	82	82
06	165	117	64	108	32	128	141	55	76	174	110	71
07	146	130	69	115	33	144	117	54	106	175	109	72
08	140	131	89	127	42	150	115	55	82	184	126	63
09	116	132	47	142	61	161	94	54	124	152	100	39
10	122	138	53	147	110	155	81	88	109	166	83	23
11	119	152	58	138	146	157	86	87	112	171	90	21
12	135	142	75	144	187	138	78	92	83	194	77	18
13	155	133	78	139	219	113	81	98	98	172	94	11
14	153	136	58	137	222	100	104	88	116	160	92	10
15	140	127	52	125	246	100	129	71	116	166	92	26
16	156	122	69	128	163	86	133	65	100	130	89	17
17	180	108	76	136	272	93	127	54	108	112	102	22
18	168	91	89	134	270	105	107	39	117	102	86	32
19	167	87	110	134	234	97	117	56	122	79	93	33
20	160	93	112	139	192	77	104	70	118	63	81	32
21	153	91	98	143	138	79	102	91	131	98	74	39
22	146	109	121	146	99	90	95	100	141	88	73	29
23	144	138	107	116	74	71	97	128	120	96	64	40
24	122	145	110	112	27	79	109	145	96	100	58	44
25	152	149	88	92	25	101	118	134	75	112	75	61
26	147	150	117	94	29	98	138	135	73	116	77	70
27	182	126	130	49	22	115	133	131	71	126	70	88
28	179	90	119	36	19	132	132	103	74	108	89	98
29	169	85	112	32	23	134	144	94	71	98	99	
30	162	79	77	38	38	144	160	96	72	94	101	
31	132		82		60	120		73		62	110	
Mean	154	122	82	110	106	108	119	94	98	126	86	50

*International sunspot numbers have replaced the Zurich values since January 1981.
The yearly mean sunspot number equaled 140.4 in 1981.

DAILY SOLAR FLUX AT 2800 MHz (10.7 CM)

Algonquin Radio Observatory, Ottawa
(Flux Adjusted to 1 AU)

Day	1982 Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	1983 Jan	Feb
01	231.3	172.2*	151.7	134.2	106.5	123.4	184.3*	205.2	159.6	167.8	131.4	162.6
02	228.3	172.0*	147.4	135.1	106.9	138.2*	168.7*	209.4	154.5	166.3	131.4	156.5*
03	230.1	169.9	147.7	141.5	109.4	153.5*	171.0*	197.0	147.4	181.6	136.2	145.5
04	238.3*	158.2	144.7	158.2*	111.5	167.3	188.1*	182.3	143.4	194.5	138.2	156.8
05	245.4*	159.9*	148.7	156.6*	114.1	180.9	179.4	163.9	136.4	195.9*	154.6	154.3*
06	230.0*	165.2	153.0	149.6*	121.3	201.2	172.1	151.9	142.1	210.4	161.6*	152.3
07	228.3	164.0*	151.0	158.6*	128.2*	219.6	176.8	140.2	142.3	244.3	163.3	142.2
08	207.1*	162.1*	150.8	167.3	150.3*	217.5*	178.5	136.9	144.8	241.7*	155.9*	133.3
09	192.2	167.3*	139.8	177.4	176.6*	212.5	179.2	137.4	147.5	258.6	150.0	121.9
10	178.9*	177.1*	130.7	196.0*	203.5*	209.5	165.6	134.8	152.9	273.5*	144.2	113.4
11	178.2	178.7*	132.3	224.2	226.4*	205.0*	158.3	137.3	154.1	259.3*	139.3	106.9
12	181.2	177.5*	132.3	238.3*	239.7*	195.2*	152.5*	136.4	164.9	251.1	135.7	99.8
13	185.5	170.9	129.8	240.2	252.6*	182.9*	151.3	143.9	161.2	239.0	135.1	95.5
14	201.3	157.9	132.2	240.8	269.2*	176.8	147.4	140.4	159.5	235.6	137.2	91.7
15	207.6*	152.2	132.1	235.8	274.0	173.0	149.0*	134.1	157.0*	221.9	141.0	88.5
16	227.7	148.2	139.0	210.6*	269.4*	161.4	147.3	129.8	163.3	213.2*	140.2	89.7
17	230.4	145.9*	142.2*	206.0*	273.3	165.1	147.0*	130.1	158.0	200.5*	138.0	91.9
18	226.8	147.0	146.8	200.7*	247.2*	166.4*	143.2	132.8	170.2*	186.5	134.8	97.2
19	219.7*	145.1	155.9	207.5	234.7	159.2	142.6*	136.7	182.3	176.8*	127.4	94.6
20	217.0	144.2	155.6*	207.1	196.5	144.7	146.9	146.2	189.2	159.2	120.5	97.3
21	212.4	145.2	165.4*	210.7	173.7*	138.6	145.4	161.4	200.9	149.4	116.1	101.6
22	213.7	156.9*	158.8	197.2*	149.5*	138.8	146.2	168.2	231.1*	150.1*	113.5	106.2
23	202.4	175.2	155.7*	187.3	128.5	141.2	152.6*	177.3	196.1	157.0*	115.4	112.0
24	189.0	181.0	144.8*	168.2	117.8	142.9	165.4*	190.9	172.9	166.8	114.1	114.3
25	189.9	182.6*	145.7	159.1*	108.2	158.5	170.3	196.8	164.8	170.6	122.7	120.3
26	192.8*	178.3	158.0	142.3	102.1	166.4	187.3	193.5	168.8*	168.7	132.6	126.2
27	195.4*	167.3	171.5*	127.6	97.8	180.4	191.4	187.7	158.6	166.2	133.6	138.3
28	200.6	161.0*	171.3*	123.1	96.4	181.4	196.9	181.4	160.3*	157.0	140.6	137.6
29	198.0	155.6	170.9*	111.7	97.5	183.4	204.6	170.9	161.4	147.3	148.9	
30	194.5*	149.8*	142.8	108.5	112.4	174.5	202.4	166.7	164.8	142.5	154.8	
31	184.1		136.7		114.4	175.0*		165.1		134.4	161.9	
Mean	208.3	162.9	147.9	177.4	164.8	172.1	167.1	160.9	163.7	93.2	137.7	119.6

*Adjusted for burst in progress at time of measurement.

DAILY SOLAR INDICES

February 1983

Day	Julian Day	Bartels Cycle Day	Sunspot Numbers R_I	Sunspot Numbers R_A'	Obs Flux Ottawa (2800)	Solar Flux Adjusted to 1 Astronomical Unit: AFGL (15400)	AFGL (8800)	AFGL (4995)	Ottawa (2800)	AFGL (2695)	AFGL (1415)	AFGL (606)	AFGL (410)	AFGL (245)
01	32	12	94	109	167.5	---	---	---	162.6	---	---	---	--	--
02	33	13	85	99	161.2*	544	301	192	156.5*	161	141	137	55	30
03	34	14	88	92	149.8	542	295	181	145.5	141	129	87	37	7
04	35	15	94	96	161.3	557	321	191	156.8	159	139	153	60	28
05	36	16	82	90	158.7*	---	328	196	154.3*	148	140	---	--	--
06	37	17	71	71	156.7	---	300	187	152.3	154	124	---	--	--
07	38	18	72	63	146.1	---	---	---	142.2	---	---	---	--	--
08	39	19	63	52	137.0	492	274	153	133.3	128	117	141	67	48
09	40	20	39	41	125.3	582	271	151	121.9	128	112	131	53	30
10	41	21	23	28	116.4	571	264	138	113.4	106	100	102	39	--
11	42	22	21	23	109.8	527	263	140	106.9	111	117	111	40	22
12	43	23	18	19	102.5	---	---	---	99.8	---	---	---	--	--
13	44	24	11	8	97.9	563	255	127	95.5	101	93	85	31	4
14	45	25	10	9	94.1	553	247	123	91.7	87	82	78	29	12
15	46	26	26	11	90.8	553	242	120	88.5	80	80	80	30	10
16	47	27	17	14	91.9	547	245	121	89.7	84	80	83	30	10
17	48	1	22	28	94.2	552	248	125	91.9	87	85	83	29	11
18	49	2	32	35	99.5	558	253	130	97.2	100	86	88	30	11
19	50	3	33	35	96.8	552	247	127	94.6	87	85	87	32	11
20	51	4	32	37	99.5	558	252	129	97.3	96	90	90	32	12
21	52	5	39	40	103.9	556	249	132	101.6	99	88	90	30	10
22	53	6	29	34	108.6	569	258	136	106.2	95	94	86	32	11
23	54	7	40	42	114.4	555	261	139	112.0	102	96	92	32	11
24	55	8	44	55	116.8	552	263	141	114.3	109	100	88	31	12
25	56	9	61	72	122.8	571	261	145	120.3	111	108	97	35	13
26	57	10	70	79	128.8	567	273	149	126.2	115	112	82	34	13
27	58	11	88	93	141.0	578	274	162	138.3	128	132	89	41	82
28	59	12	98	106	140.3	572	262	159	137.6	128	121	93	38	15
Mean			50	53	122.6	555	268	147	119.6	114	106	98	37	23

*Adjusted for burst in progress at time of measurement.

Equipment problems produced the gaps shown here in the AFGL Sagamore Hill observations.
The international and American sunspot numbers represent provisional values.
Numbers in parentheses in the column headings denote frequencies in MHz.

OBSERVED AND PREDICTED SOLAR ACTIVITY INDICES

	SUNSPOT NUMBERS						2800 MHz FLUX Adjusted to 1 AU	
	Rz or R_I		Ra		Rs		Sa	
Date	Monthly Mean	Smoothed	Monthly Mean	Smoothed	Monthly Mean	Smoothed	Monthly Mean	Smoothed
Mar 80	126.2	161	107.9	153	117.8	153	166.5	200
Apr	164.1	159	138.5	151	164.0	152	209.3	198
May	179.7	156	172.3	149	185.4	151	229.1	197
Jun	157.3	155	153.6	149	153.2	151	199.3	198
Jul	136.3	153	136.0	144	144.1	151	190.8	197
Aug	135.4	150	133.0	144	121.9	150	170.3	196
Sep	155.0	150	150.0	146	138.8	152	185.9	198
Oct	164.7	150	160.8	149	157.1	154	202.9	200
Nov	147.9	148	149.9	149	168.5	153	213.4	199
Dec	174.4	143	167.5	145	174.3	150	218.8	196
Jan 81	114.0	140	115.4	144	120.5	149	169.0	195
Feb	141.3	142	143.7	146	153.5	152	199.5	198
Mar	155.5	143	149.2	149	157.5	156	203.2	202
Apr	156.4	143	169.2	149	180.7	158	224.7	204
May	127.5	143	141.3	149	152.8	159	198.9	204
Jun	90.9	142	99.0	147	112.9	158	161.9	203
Jul	143.8	140	154.3	146	152.1	157	198.2	203
Aug	158.7	141	170.4	147	182.1	158	226.0	203
Sep	167.3	143	174.5	148	177.7	158	221.9	204
Oct	162.4	142	157.0	146	178.6	156	222.8	202
Nov	137.5	139	138.8	142	157.6	151	203.3	197
Dec	150.1	138	145.0	140	155.5	149	201.4	195
Jan 82	111.2	137	110.4	139	124.2	148	173.4	195
Feb	163.6	133	161.0	134	163.6	144	208.9	191
Mar	153.8	129	155.5	130	163.0	139	208.3	186
Apr	122.0	124*	121.9	124	113.9	134	162.9	182
May	82.2	119*	82.6	120	97.7	129	147.9	177
Jun	110.4	117*	113.5	118	129.6	127	177.4	175
Jul	106.1	115*	113.3	117	116.0	125	164.8	174
Aug	107.6	109*	110.5	111	123.9	120	172.1	168
Sep	118.8	104(± 4)*	117.8	105	118.5	113	167.1	---
Oct	94.3†	97(± 4)*	90.1	98	111.8	105	160.9	---
Nov	98.5†	92(± 5)*	93.2	93	114.8	100	163.7	---
Dec	126.4†	88(± 7)*	145.0	89	146.7	96	193.2	---
Jan 83	85.8†	84(± 8)*	82.8	84	86.7	91	137.7	---
Feb	50.1†	81(±10)*	---	81	67.2	87	119.6	---
Mar	---	79(±11)*	---	80	---	85	---	---
Apr	---	77(±13)*	---	78	---	83	---	---
May	---	74(±15)*	---	75	---	79	---	---
Jun	---	71(±18)*	---	71	---	76	---	---
Jul	---	69(±19)*	---	70	---	74	---	---
Aug	---	68(±21)*	---	69	---	73	---	---

*An asterisk denotes either a value of the observed 12-month running mean or a predicted 12-month average that is based on preliminary observations of the international relative sunspot number (R_I). Parentheses enclose the 90% confidence limits. Shaded boxes enclose the most recent smoothed values; boxes not shaded enclose predicted values. Ra is the new symbol for R_A. All tabulated entries of Ra are final values.

†R_I replaces R_Z as of January 1981.

SMOOTHED OBSERVED AND PREDICTED SUNSPOT NUMBERS FOR CYCLE 21

Month	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1976	15	13	12	13	13	12	13	14	14	13	14	15
1977	17	18	20	22	24	26	29	33	39	46	52	57
1978	61	65	70	77	83	89	97	104	108	111	113	118
1979	124	131	137	141	147	153	155	155	156	158	162	165*
1980	164	163	161	159	156	155	153	150	150	150	148	143
1981	140	142	143	143	143	142	140	141	143	142	139	138
1982	137	133	129	124	119	117	115	109	104 (4)	97 (4)	92 (5)	88 (7)
1983	84 (8)	81 (10)	79 (11)	77 (13)	74 (15)	71 (18)	69 (19)	68 (21)	67 (23)	67 (24)	67 (24)	66 (25)
1984	65 (25)	62 (26)	58 (26)	54 (27)	51 (28)	51 (30)	50 (30)	48 (30)	46 (30)	44 (29)	42 (28)	40 (27)
1985	38 (27)	38 (26)	37 (26)	37 (25)	36 (25)	34 (24)	32 (23)	31 (22)	31 (22)	30 (23)	29 (23)	29 (24)
1986	28 (24)	27 (24)	25 (24)	24 (23)	22 (22)	20 (22)	18 (21)	16 (20)	16 (18)	15 (17)	15 (16)	15 (14)

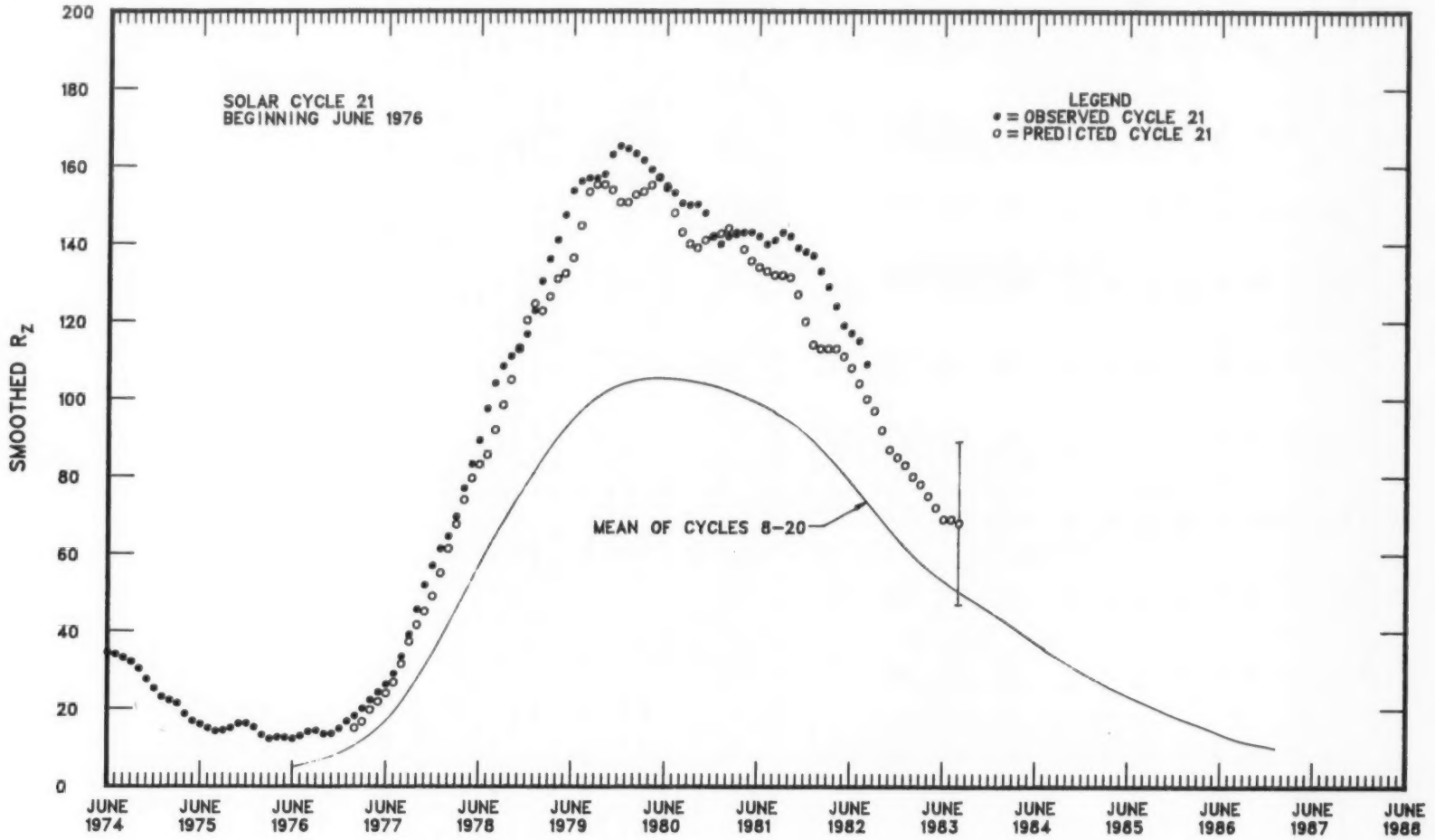
For the current solar cycle, this table gives observed smoothed sunspot numbers up to the one calculated from the most recently measured monthly mean. These smoothed observed values are based on final monthly mean Zurich numbers through 1980, on final international numbers through September 1982, and on provisional monthly mean international numbers thereafter. Some table entries after the June 1976 number will change slightly, when we incorporate final data for 1982.

The entries with numbers in parentheses below them denote predictions by the McNish-Lincoln method. (See page 10 in the February 1982 edition of the "Solar-Geophysical Data" supplement.) By adding to and subtracting from each prediction the number in parentheses, one generates the 90% confidence interval. Consider, for example, the July 1983 prediction tabulated above. There exists a 90% chance that in July 1983 the actual smoothed sunspot number will fall somewhere between 50 and 88.

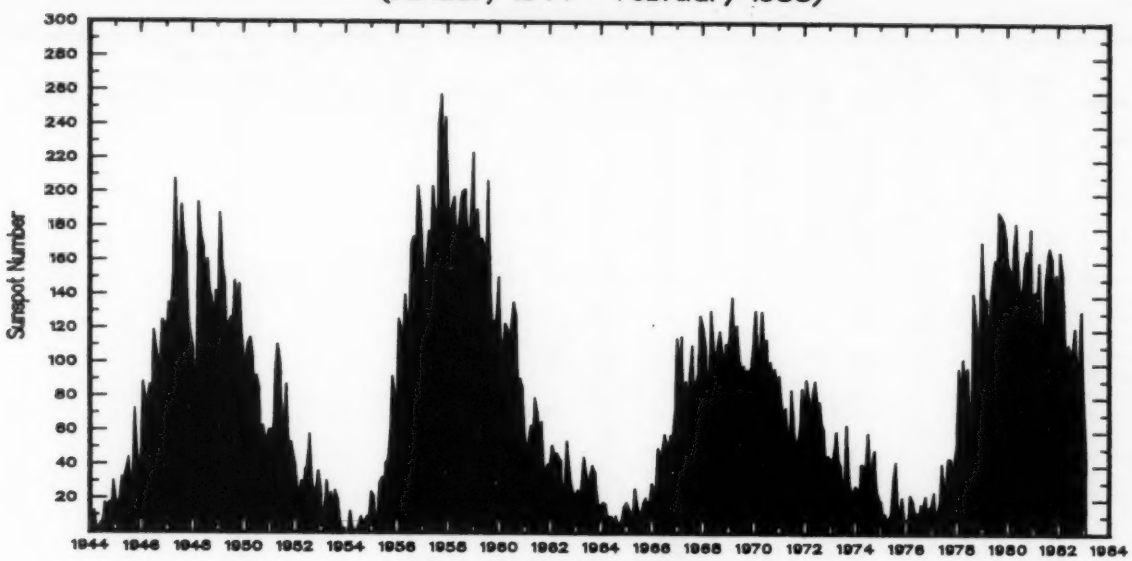
THE MCNISH-LINCOLN PREDICTION METHOD GENERATES MEANINGFUL ESTIMATES OF SMOOTHED SUNSPOT NUMBERS FOR NO MORE THAN 12 MONTHS AHEAD. Beyond a year the predictions regress rapidly toward the mean of all 13 cycles of data used in the computation. Furthermore, the method is very sensitive to the date defined as the beginning of the current sunspot cycle, that is, to the date of the most recent sunspot minimum. In "Solar-Geophysical Data," Issues 390-401, we based the current cycle predictions on March 1976 as the end of cycle 20 and the onset of the new cycle 21. Later studies, including one published by M. Waldmeier, showed that June 1976 was more appropriately the minimum epoch. We therefore generated this table using the June 1976 date.

*MAXIMUM OF SUNSPOT CYCLE 21. The maximum smoothed sunspot number occurred in December 1979.

OBSERVED AND ONE-YEAR-AHEAD PREDICTED SMOOTHED SUNSPOT NUMBERS



MONTHLY MEAN SUNSPOT NUMBERS
(January 1944 — February 1983)



MONTHLY MEAN SUNSPOT NUMBERS

Year	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1944	3.7	0.5	11.0	0.3	2.5	5.0	5.0	16.7	14.3	16.9	10.8	28.4
1945	18.5	12.7	21.5	32.0	30.6	36.2	42.6	25.9	34.9	68.8	46.0	27.4
1946	47.6	86.2	76.6	75.7	84.9	73.5	116.2	107.2	94.4	102.3	123.8	121.7
1947	115.7	133.4	129.8	149.8	201.3	163.9	157.9	188.8	169.4	163.6	128.0	116.5
1948	108.5	86.1	94.8	189.7	174.0	167.8	142.2	157.9	143.3	136.3	95.8	138.0
1949	119.1	182.3	157.5	147.0	106.2	121.7	125.8	123.8	145.3	131.6	143.5	117.6
1950	101.6	94.8	109.7	113.4	106.2	83.6	91.0	85.2	51.3	61.4	54.8	54.1
1951	59.9	59.9	55.9	92.9	108.5	100.6	61.5	61.0	83.1	51.6	52.4	45.8
1952	40.7	22.7	22.0	29.1	23.4	36.4	39.3	54.9	28.2	23.8	22.1	34.3
1953	26.5	3.9	10.0	27.8	12.5	21.8	8.6	23.5	19.3	8.2	1.6	2.5
1954	0.2	0.5	10.9	1.8	0.8	0.2	4.8	8.4	1.5	7.0	9.2	7.6
1955	23.1	20.8	4.9	11.3	28.9	31.7	26.7	40.7	42.7	58.5	89.2	76.9
1956	73.6	124.0	118.4	110.7	136.6	116.6	129.1	169.6	173.2	155.3	201.3	192.1
1957	165.0	130.2	157.4	175.2	164.6	200.7	187.2	158.0	235.8	253.8	210.9	239.4
1958	202.5	164.9	190.7	196.0	175.3	171.5	191.4	200.2	201.2	181.5	152.3	187.6
1959	217.4	143.1	185.7	163.3	172.0	168.7	149.6	199.6	145.2	111.4	124.0	125.0
1960	146.3	106.0	102.2	122.0	119.6	110.2	121.7	134.1	127.2	82.8	89.6	85.6
1961	57.9	46.1	53.0	61.4	51.0	77.4	70.2	55.9	63.6	37.7	32.6	40.0
1962	38.7	50.3	45.6	46.4	43.7	42.0	21.8	21.8	51.3	39.5	26.9	23.2
1963	19.8	24.4	17.1	29.3	43.0	35.9	19.6	33.2	38.8	35.3	23.4	14.9
1964	15.3	17.7	16.5	8.6	9.5	9.1	3.1	9.3	4.7	6.1	7.4	15.1
1965	17.5	14.2	11.7	6.8	24.1	15.9	11.9	8.9	16.8	20.1	15.8	17.0
1966	28.2	24.4	25.3	48.7	45.3	47.7	56.7	51.2	50.2	57.2	57.2	70.4
1967	110.9	93.6	111.8	69.5	86.5	67.3	91.5	107.2	76.8	88.2	94.3	126.4
1968	121.8	111.9	92.2	81.2	127.2	110.3	96.1	109.3	117.2	107.7	86.0	109.8
1969	104.4	120.5	135.8	106.8	120.0	106.0	96.8	98.0	91.3	95.7	93.5	97.9
1970	111.5	127.8	102.9	109.5	127.5	106.8	112.5	93.0	99.5	86.6	95.2	83.5
1971	91.3	79.0	60.7	71.8	57.5	49.8	81.0	61.4	50.2	51.7	63.2	82.2
1972	61.5	88.4	80.1	63.2	80.5	88.0	76.5	76.8	64.0	61.3	41.6	45.3
1973	43.4	42.9	46.0	57.7	42.4	39.5	23.1	25.6	59.3	30.7	23.9	23.3
1974	27.6	26.0	21.3	40.3	39.5	36.0	55.8	33.6	40.2	47.1	25.0	20.5
1975	18.9	11.5	11.5	5.1	9.0	11.4	28.2	39.7	13.9	9.1	19.4	7.8
1976	8.1	4.3	21.9	18.8	12.4	12.2	1.9	16.4	13.5	20.6	5.2	15.3
1977	16.4	23.1	8.7	12.9	18.6	38.5	21.4	30.1	44.0	43.8	29.1	43.2
1978	51.9	93.6	76.5	99.7	82.7	95.1	70.4	58.1	138.2	125.1	97.9	122.7
1979	166.6	137.5	138.0	101.5	134.4	149.5	159.4	142.2	188.4	186.2	183.3	176.3
1980	159.6	155.0	126.2	164.1	179.9	157.3	136.3	135.4	155.0	164.7	147.9	174.4
1981	114.0	141.3	135.5	156.4	127.5	90.9	143.8	158.7	167.3	162.4	137.5	150.1
1982	111.2	163.6	153.8	122.0	82.2	110.4	106.1	107.6	118.8	94.3*	98.5*	126.4*
1983	85.8*	50.1*										

*Provisional

H - ALPHA SOLAR FLARES

FEBRUARY 1983

Sta	Day	Start (UT)	Max (UT)	End (UT)	Lat	CMD	NOAA/ USAF Region	CMP Mo	CMP Day	Dur (Min)	Imp	Opt	Xray	See	Obs Type	Time (UT)	Area Measurement Apparent (10^{-6} Disk)	Area Measurement Corr (Sq Deg)	Remarks
LEAR	01	0150	0151	0159	S16	E24	4077	02	2.9	9	SF	C	1.2	3	C		28		
PALE	01	0150	0151	0155	S17	E23	4077	02	2.8	5	SF	C	1.2	3	C		30		
LEAR	01	0203	0215	0226	S18	E23	4077	02	2.8	23	SN	C	2.0	3	C		26		F
MANI	01	0203	0217	0226	S16	E24		02	2.9	23	SN			1	V		35	.4	
PALE	01	0205	0217	0228	S19	E22	4077	02	2.8	23	SN	C	2.0	3	C		44		
LEAR	01	0255	0255	0304	S09	E63	4079	02	5.9	9	SF			3	C		23		
LEAR	01	0648	0648	0816	S20	E17	4077	02	2.6	88	SN			3	C		31		K
LEAR	01	0648	0737	0816	S20	E17	4077	02	2.6	88	1N	C	5.6	3	C		298		ZFK
GOES	01	1056	1059	1101						5		C	2.1						
RAMY	01	1220E	1220U	1304	S18	E19	4077	02	3.0	44D	SN	C	2.1	3	C		36		F
GOES	01	1333	1336	1338			4077			5		C	2.1						
RAMY	01	1338	1339	1402	S18	E16	4077	02	2.8	24	SF			3	C		28		K
RAMY	01	1338	1346	1402	S18	E16	4077	02	2.8	24	SF			3	C		24		K
HOLL	01	1633E	1640	1726	S19	E13	4077	02	2.7	53D	SF			3	C		39		K
HOLL	01	1633E	1707U	1726	S19	E13	4077	02	2.7	53D	SN	C	1.0	3	C		100		F K
GOES	01	1750	1825	1829						39		C	2.0						
HOLL	01	1808E	1809U	1913	S17	E25		02	3.7	65D	SF	C	2.0	3	C		54		FS
HOLL	01	1833	1835	2032D	S19	E13	4077	02	2.8	119D	SN			3	C		31		K
HOLL	01	1833	1903	2032D	S19	E13	4077	02	2.8	119D	SB	C	5.1	3	C		79		ZFK
MANI	02	0042	0043	0051	S10	W67		01	28.0	9	SF			1	V		25	.5	
PALE	02	0042	0043	0050	S12	W66	4072	01	28.1	8	SF			3	C		28		
LEAR	02	0044	0045	0051	S10	W68	4072	01	27.9	7	SF			3	C		23		
LEAR	02	0151	0153	0159	S17	E11	4077	02	2.9	8	SF			3	C		39		
LEAR	02	0310	0310	0315	S17	E11	4077	02	3.0	5	SF			3	C		24		
GOES	02	0458	0501	0505						7		C	1.0						
GOES	02	0657	0700	0708						11		C	1.0						
GOES	02	0927	0931	0933						6		C	1.0						
LEAR	02	0954	0954	0958	S17	E07	4077	02	2.9	4	SF	C	1.0	3	C		29		F
MONT	02	1042	1044	1048	S17	E50		02	6.2	6	SF				C	1044	50		E
GOES	02	1046	1055	1108						22		C	2.2						
GOES	02	1227	1230	1232						5		C	1.9						
GOES	02	1357	1400	1402						5		C	2.4						
GOES	02	1459	1501	1505						6		C	1.0						
GOES	02	1541	1548	1551						10		C	1.1						
HOLL	02	1557	1612	1636	S14	W09	4075	02	2.0	39	SF			3	C		78		F
HOLL	02	1655	1658	1700	S16	E46	4079	02	6.2	5	SF			3	C		20		
HOLL	02	1733	1740	1800	S20	E46	4079	02	6.3	27	SF			3	C		35		
HOLL	02	1808	1809	1815	S21	E46	4079	02	6.3	7	SF			3	C		18		
HOLL	02	1813	1814	1823	S18	W00	4077	02	2.8	10	SF			3	C		23		F
PALE	02	1814	1826	1830	S19	W02	4077	02	2.6	16	SF			3	C		48		
HOLL	02	1823	1832U	1851	S20	E47	4079	02	6.4	28	SN			3	C		22		
PALE	02	1824	1828	1831	S15	E45	4079	02	6.2	7	SF			3	C		20		
PALE	02	1843	1844	1856	S19	W01	4077	02	2.7	13	SF			3	C		48		
HOLL	02	2021	2022	2033	S16	E01	4077	02	2.9	12	SN	C	1.0	3	C		65		F
HOLL	02	2200E	2223	2236	S20	E44	4079	02	6.3	36D	SN	C	.9	3	C		42		
PALE	02	2221	2223	2227	S16	E42	4079	02	6.1	6	SF			3	C		25		
LEAR	03	0126	0129	0141	S18	W06	4077	02	2.6	15	SN	C	1.1	3	C		55		F
GOES	03	0202	0205	0208						6		C	1.1						
PEKG	03	0235	0244	0330D	S19	W07		02	2.6	55D	SF				P	0244	42	.2	D
PALE	03	0257	0319	0330	S19	W07	4077	02	2.6	33	SF	C	1.3	3	C		49		F
LEAR	03	0302	0304	0316	S20	W07	4077	02	2.6	14	SF			3	C		27		F
LEAR	03	0350	0351	0358	S13	W14	4075	02	2.1	8	SF			3	C		29		
LEAR	03	0540	0550	0659	S14	W15	4075	02	2.1	79	1N			3	C		220		UF
LEAR	03	0543	0619	0842	S19	W08	4077	02	2.6	179	3B	X	4.1	3	C		1432		ZU
PEKG	03	0545E	0548	0614	S13	W16		02	2.0	29D	SN				P	0548	168	1.8	EU
PEKG	03	0546	0612	0724	S17	W07		02	2.7	98	2B	X	4.1		C	0612	799	8.4	FU
MANI	03	0609E	0613U	0618D	S17	W07		02	2.7	9D	SB			1	V		750	8.0	FZ
LEAR	03	0834	0836	0844	S19	E37	4079	02	6.2	10	SF			3	C		38		
LEAR	03	0846	0846	0851	S15	E37	4079	02	6.2	5	SF			3	C		47		F
GOES	03	1302	1305	1307						5		C	1.8						
GOES	03	1424	1427	1432						8		C	1.6						
GOES	03	1826	1832	1843						17		C	5.7						
RAMY	03	1839E	1839	1840D	S17	W09	4077	02	3.1	1D	1N	C	2.7	3	C		520		EF
GOES	03	1942	1946	1948						6		C	2.2						
LEAR	04	0014	0016	0038	N08	W66	4071	01	30.1	24	SF			3	C		61		F
MANI	04	0018E	0018U	0020D	N05	W63		01	30.3	2D	SF			1	V		40	.8	
LEAR	04	0133	0136	0144	S16	W15	4077	02	2.9	11	SF	C	1.4	3	C		42		F
PALE	04	0255	0309	0342D	S21	W20	4077	02	2.6	47D	SF	C	1.4	3	C		79		F

H - ALPHA SOLAR FLARES

FEBRUARY 1983

Sta	Day	Start (UT)	Max (UT)	End (UT)	Lat	CMD	NOAA/ USAF Region	CMP Mo	CMP Day	Dur (Min)	Imp Opt	Imp Xray	Imp See	Obs Type	Area Measurement Time (UT)	Area Measurement Apparent (10^{-6} Disk)	Area Measurement Corr (Sq Deg)	Remarks
LEAR	04	0305	0309	0335	S21	W20	4077	02	2.6	30	SF	C 1.4	3	C		90		F
PEKG	04	0318	0321	0355	S19	W21		02	2.5	37	SF			P	0321	84	.9	D
LEAR	04	0501	0506	0525	S14	E25		02	6.1	24	SF		3	C		35		F
LEAR	04	0558	0600	0607	S14	E25		02	6.1	9	SF		3	C		32		F
GOES	04	0701	0715	0718						17		C 1.3						
GOES	04	0841	0844	0850						9		C 1.3						
LEAR	04	0848	0853	0859	S10	E39	4081	02	7.3	11	SF		3	C		38		F
LEAR	04	0945	0949	1012D	S17	W21	4077	02	2.8	27D	SF	C 1.9	3	C		50		F
LEAR	04	0959	1002	1009	S19	E24	4079	02	6.2	10	SF		3	C		23		F
GOES	04	1102	1106	1112						10		C 1.9						
GOES	04	1358	1401	1444						46		C 2.0						
GOES	04	1644	1647	1701						17		C 1.7						
GOES	04	1852	1855	1857						5		C 1.6						
PALE	04	1939E	1947	2015	S19	E22	4079	02	6.5	36D	SN	C 2.1	3	C		141		F
PALE	04	1940E	1942U	1958	S15	W33	4075	02	23	18D	SF		3	C		21		
HOLL	04	1951	1954U	2010D	S18	E22	4079	02	6.5	19D	SN		3	C		80		F
PALE	04	2008	2019	2021	S18	W26	4077	02	2.9	13	SF		3	C		22		
HOLL	04	2104	2109	2148D	S07	E09	4082	02	5.6	44D	SN		3	C		87		U
PALE	04	2105	2109	2131D	S08	E13	4082	02	5.9	26D	SN		3	C		65		UF
PALE	04	2110	2112	2120	S19	W34	4075	02	2.3	10	SF	C 1.3	3	C		31		F
HOLL	04	2110	2112	2143	S15	W35	4075	02	2.2	33	SN	C 1.3	3	C		74		
GOES	04	2232	2237	2238						6		C 1.1						
GOES	04	2240	2244	2246						6		C 3.6						
LEAR	04	2350	2350	0004	S19	E17	4079	02	6.3	14	SF	C 1.2	3	C		55		F
LEAR	05	0032	0040	0057	S19	E16	4079	02	6.2	25	SN	C 2.1	3	C		130		F
LEAR	05	0145	0148	0203	S20	W30	4077	02	2.8	18	SN	C 1.4	3	C		48		F
LEAR	05	0309	0310	0317	S21	W33	4077	02	2.6	8	SF		3	C		22		F
LEAR	05	0338	0340	0346	S18	E16	4079	02	6.4	8	SN		3	C		30		F
PEKG	05	0435	0436U	0454	S19	W33		02	2.7	19	1B	C 3.1		C	0436	176	2.2	E
LEAR	05	0435	0437	0500	S21	W33	4077	02	2.7	25	1B	C 3.1	3	C		198		H
LEAR	05	0458	0501	0527	S19	E14	4079	02	6.3	29	SN		3	C		51		F
PEKG	05	0503E	0503	0512D	S19	E13		02	6.2	9D	SN			P	0503	46	.5	E
LEAR	05	0555	0557	0614	S08	E06	4082	02	5.7	19	SF		3	C		53		
LEAR	05	0649	0701	0815	S19	W36	4077	02	2.5	86	1B	C 6.4	3	C		402		FH
PEKG	05	0658	0700	0715	S20	W34		02	2.7	17	1B	C 6.4		C	0700	176	2.2	E
MANI	05	0702E	0702U	0704D	S12	W33		02	2.8	2D	SB		1	V		40	.5	
LEAR	05	0703	0704	0727	S14	W41	4075	02	2.2	24	SN		3	C		110		H
LEAR	05	0720	0735	0800	S18	E12	4079	02	6.2	40	SF		3	C		45		F
LEAR	05	0928E	0933	1017D	S19	W35	4077	02	2.7	49D	1B	M 1.7	3	C		451		FH
MONT	05	0930	0937	0952	S19	W37		02	2.6	22	1B			C	0937	300		H
GOES	05	1249	1252	1254						5		C 2.1						
RAMY	05	1303	1337	1358	S21	W38	4077	02	2.6	55	1B	M 1.2	3	C		201		FE
RAMY	05	1356	1356	1407	S14	E16	4081	02	6.8	11	SF		3	C		34		
GOES	05	1640	1644	1709			4077			29		C 1.7						
HOLL	05	1643	1647	1654	S16	E05	4079	02	6.1	11	SN		3	C		46		
HOLL	05	1654	1740	1824	S18	W40	4077	02	2.7	90	1B		3	C		198		K
HOLL	05	1654	1750	1824	S18	W40	4077	02	2.7	90	1B		3	C		346		FEK
RAMY	05	1656	1749	1841	S20	W40	4077	02	2.6	105	1B		3	C		370		FE
RAMY	05	1746	1752	1758	S18	E05	4079	02	6.1	12	SN	C 9.2	3	C		60		
HOLL	05	1909	1916	1916D	S15	W38	4077	02	2.9	7D	SB		3	C		49		
GOES	05	1911	1917	1919			4077			8		C 2.2						
RAMY	05	1946	1947	2026	S17	W39	4077	02	2.9	40	SF		3	C		24		
HOLL	05	1946	1947	2048	S16	W40	4077	02	2.8	62	SN		3	C		30		F
GOES	05	2000	2003	2005						5		C 2.1						
HOLL	05	2108	2136	2208	S19	E04	4079	02	6.2	60	SN		3	C		43		K
HOLL	05	2108	2143	2208	S19	E04	4079	02	6.2	60	SN		3	C		73		F K
PALE	05	2145E	2150U	2200D	S13	E03	4079	02	6.1	15D	SN		3	C		64		
LEAR	05	2329	2332	0001	S14	W53	4075	02	2.0	32	SF	C 1.0	3	C		28		F K
LEAR	05	2329	2353	0001	S14	W53	4075	02	2.0	32	SF		3	C		35		K
GOES	06	0026	0028	0033						7		C 1.0						
GOES	06	0307	0310	0313						6		C .7						
GOES	06	0327	0339	0352						25		C .9						
LEAR	06	0511	0515	0545	S21	W44	4077	02	2.8	34	SN	C 3.2	3	C		164		F
PEKG	06	0519E	0521	0532	S21	W43		02	2.9	13D	1N	C 3.2		P	0521	336	4.9	EF
PEKG	06	0528	0531	0533D	S14	W42		02	3.1	5D	SN			P	0531	126	1.8	E
LEAR	06	0751	0752	0758	S16	W45	4077	02	2.9	7	SF		3	C		27		F
MANI	06	0752	0752	0759	S15	W45		02	2.9	7	SF		1	V		30	.4	F
GOES	06	1014	1017	1019						5		M 2.7						
GOES	06	1128E	1128	1130						2D		C 2.0						

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Sta	Day	Start (UT)	Max (UT)	End (UT)	Lat	CMD	NOAA/ USAF Region	CMP Mo	CMP Day	Dur (Min)	Imp Opt	Imp Xray	Imp See	Obs Type	Area Measurement Time (UT)	Area Measurement Apparent (10⁻⁶ Disk)	Area Measurement Corr (Sq Deg)	Remarks
HOLL	06	1807	1807	1820	S21	W08	4079	02	6.1	13	SF		3	C		39		F
HOLL	06	1843	1855	1925	S18	W09	4079	02	6.1	42	SN	C .9	3	C		131		F
PALE	06	1854	1855	1901	S17	W09	4079	02	6.1	7	SF	C .9	3	C		25		F
RAMY	06	1855	1856	1916	S17	W10	4079	02	6.0	21	SF	C .9	3	C		76		
HOLL	06	2055E	2100	2120	S12	W59	4075	02	2.4	25D	SF		3	C		24		
PALE	06	2107	2109	2112	S15	W64	4075	02	2.0	5	SF		3	C		33		
LEAR	07	0527	0531	0535	S08	W21	4082	02	5.7	8	SF	C .8	3	C		34		
LEAR	07	0820	0820	0826	S19	W61	4077	02	2.7	6	SF		3	C		18		
LEAR	07	0831	0831	0841	S16	W58	4077	02	3.0	10	SF		3	C		16		
KAND	07	1227	1229	1229	S17	W15		02	6.4	2	SF			C		35	.4	D
HOLL	07	1547	1548	1552	S11	W06	4081	02	7.2	5	SF	C .6	3	C		46		F
HOLL	07	2043	2057	2108	S13	W63	4077	02	3.1	25	SF		3	C		16		F
GOES	07	2045E	2045	2046						1D		C .7						
GOES	08	0302	0307	0309						7		C .7						
LEAR	08	0508	0509	0511D	S09	W16	4081	02	7.0	3D	SF	C .7	3	C		91		U
KAND	08	0751	0758	0808	S09	W13		02	7.4	17	SN			C		31	.3	E
ISTA	08	0754		0809	S08	W12		02	7.4	15	SB							E
LEAR	08	0755	0759	0812	S09	W13	4081	02	7.4	17	SF		3	C		43		F
LEAR	08	0948	0955	1005	S19	W75	4077	02	2.7	17	SF		3	C				
GOES	08	1118	1121	1124						6		C .7						
GOES	08	1229	1232	1234						5		C .7						
PALE	08	2241	2241	2248	S18	W80	4077	02	2.8	7	SF		3	C				F
LEAR	08	2308E	2309U	2323	S16	W80	4077	02	2.9	15D	SF		3	C				
GOES	09	0000	0000	0143			4077			103		C 6.7						
LEAR	09	0557	0557	0601	S16	W77	4077	02	3.4	4	SF		3	C		11		
LEAR	09	0603	0605	0612	S12	W30	4081	02	7.0	9	SF		3	C		77		
ISTA	09	0730		0925	S17	W90		02	2.5	115	N							A
GOES	09	1143	1150	1154						11		C 1.0						
HOLL	09	1851	1900	1910	S12	W89	4077	02	3.1	19	SF		3	C				
HOLL	09	2046	2047	2049	S12	W91	4077	02	3.0	3	SF		3	C				
HOLL	09	2105E	2114	2131	S15	W77	4077	02	4.0	26D	SF		3	C				
GOES	09	2215	2226	2236						21		C 3.7						
ISTA	10	0824		0833	S19	W90		02	3.5	9	SB							A
KAND	10	1020	1023	1031	S08	W63		02	5.7	11	SN			C		27	.6	D
GOES	10	1048	1051	1054						6		C .5						
RAMY	10	1751	1803	1817	S12	W45	4081	02	7.4	26	SN	C .6	3	C		60		
HOLL	10	1804E	1806U	1818	S10	W45	4081	02	7.4	14D	SN	C .6	3	C		85		F
LEAR	11	0105	0107	0114	S06	W75	4082	02	5.4	9	SF	C 1.0	3	C				F
PALE	11	0107	0108	0112	S07	W75	4082	02	5.4	5	SF	C 1.0	3	C				
RAMY	11	1440	1441	1448	S11	W55	4081	02	7.5	8	SF		3	C		22		
GOES	11	2252	2256	2259						7		C .5						
GOES	11	2325	2329	2335						10		C .5						
LEAR	12	0103	0103	0109	S20	W84	4079	02	5.6	6	SF	C .6	3	C				H
GOES	12	0712	0724	0727						15		C .8						
GOES	12	1009	1017	1019						10		C .3						
GOES	12	1129	1132	1134						5		C .4						
GOES	12	1435	1439	1443			4079			8		C 1.4						
PALE	12	2050E	2212U	2225	S20	W50		02	9.0	95D	SF		3	C		58		US
HOLL	12	2200E	2204U	2223	S15	W50		02	9.1	23D	SF		3	C		58		US
GOES	12	2206	2235	2305						59		C .8						
MANI	12	2259E	2300	2320	S17	W51		02	9.1	21D	SF		1	V		50	.8	
LEAR	12	2303E	2303U	2319	S17	W50		02	9.2	16D	SF		3	C		58		
LEAR	16	0715	0715	0724	S18	E49	4090	02	20.0	9	SF	C .2	3	C		21		F
GOES	16	1214	1225	1237						23		C 1.3						
PALE	18	0040	0041	0055	S15	E27	4090	02	20.1	15	SF		3	C		29		
LEAR	18	0632	0635	0648D	S17	E23	4090	02	20.0	16D	SF	C .6	2	C		47		F
GOES	18	0740	0743	0745						5		C .3						
RAMY	18	1203	1231	1240	S16	E20	4090	02	20.0	37	SF		3	C		23		
RAMY	18	1309	1311	1315	S17	E20	4090	02	20.1	6	SF	C .3	3	C		26		
WEND	18	1338	1340	1352	S16	E20		02	20.1	14	SN	C .5		C	1340	28	.3	
RAMY	18	1338	1342	1345	S17	E20	4090	02	20.1	7	SN	C .5	3	C		28		F
HOLL	18	1551	1553	1618	S16	E18	4090	02	20.0	27	SN	C .6	3	C		63		F K
HOLL	18	1551	1606	1618	S16	E18	4090	02	20.0	27	SF		3	C		38		K

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Sta	Day	Start (UT)	Max (UT)	End (UT)	Lat	CMD	NOAA/ USAF Region	CMP Mo	CMP Day	Dur (Min)	Imp Opt	Imp Xray	Imp See	Obs Type	Area Measurement Time (UT)	Area Measurement Apparent (10⁻⁶ Disk)	Area Measurement Corr (Sq Deg)	Remarks
HOLL	18	1644E	1648	1654	S16	E17	4090	02	20.0	10D	SF	C .6	2	C		90		F
GOES	18	1716	1723	1731						15		C .5						
GOES	18	1735	1741	1748						13		C .9						
GOES	19	1123	1126	1128						5		C .2						
GOES	20	0704	0708	0710						6		C .4						
PEKG	20	0706E	0706	0719	S16	W04		02	20.0	13D	SN			C	0706	67	.7	EK
PEKG	20	0706E	0716	0719	S16	W04		02	20.0	13D	SF			C	0716	34	.4	E
LEAR	20	0716E	0717	0723	S16	W04	4090	02	20.0	7D	SF		3	C		35		
LEAR	20	0750E	0750	0800	S17	W05	4090	02	19.9	10D	SF	C .3	3	C		30		F
HOLL	20	2228	2228	2239	N12	E65	4094	02	25.8	11	SF		3	C		15		
GOES	21	0718	0721	0723						5		C .7						
GOES	21	1850	1945	2030						100		C 1.0						
GOES	22	1134	1142	1155						21		C .9						
GOES	22	1920	1936	1955						35		M 4.2						
HOLL	22	2124E	2124U	2132	S10	E18	4092	02	24.2	8D	SN		3	C		70		F
PALE	23	2103	2110	2120	S12	E76	4098	03	1.6	17	SN	C 2.7	3	C				F
PALE	24	0351	0352	0353	S15	E70	4098	03	1.5	2	SF		3	C		43		
GOES	24	1417	1423	1434						17		C .6						
PALE	24	1845	1848	1922	S13	E63		03	1.5	37	1N	C 3.0	3	C		144		F
PALE	24	2011	2014	2019	S12	E63	4098	03	1.6	8	SF		3	C		15		
GOES	24	2012	2030	2145			4098			93		C 2.0						
GOES	25	0235	0249	0306						31		C 1.2						
LEAR	25	0738	0740	0745	N10	E05	4094	02	25.7	7	SF		3	C		38		F
GOES	25	0741	0859	0932			4094			111		C .5						
HOLL	25	1831	1836	1839	S22	E50	4098	03	1.6	8	SF		3	C		29		
PALE	25	2028	2032	2143	S21	E50	4098	03	1.7	75	1B	C 4.5	3	C		307		U
HOLL	25	2029	2032	2041D	S21	E48	4098	03	1.5	12D	1B	C 4.5	3	C		293		U
PALE	25	2221	2223	2235	N16	E45	4097	03	1.3	14	SF	C 1.0	3	C		26		
LEAR	26	0245	0245	0253	N15	E41	4097	03	1.2	8	SF	C .7	3	C		44		F07
GOES	26	0619	0627	0637						18		C 1.3						
GOES	26	0833	0910	0930						57		C .7						
GOES	26	1214	1225	1237						23		C 1.3						
GOES	26	1307	1315	1323						16		C 1.4						
GOES	26	1434	1442	1451						17		C .8						
GOES	26	2005	2008	2012						7		C .5						
HOLL	26	2240	2244	2330	N13	W15	4094	02	25.8	50	SN	C 1.4	3	C		87		UF
PALE	26	2241	2244U	2249D	N12	W15	4094	02	25.8	8D	SF	C 1.4	3	C		45		F
GOES	27	0224	0235	0242						18		C 1.4						
LEAR	27	0259	0259	0306	S09	W25	4100	02	25.2	7	SF		3	C		30		F
LEAR	27	0330	0331	0342	S17	E26	4098	03	1.1	12	SF		3	C		25		
PALE	27	0331	0331	0337	S15	E25	4098	03	1.0	6	SF		3	C		32		
GOES	27	0441	0445	0447			4092			6		C .9						
LEAR	27	0548	0550	0557	S17	E25	4098	03	1.1	9	SF		3	C		30		F
LEAR	27	0636	0636	0653	S17	E24	4098	03	1.1	17	SF	C 1.3	3	C		34		F
LEAR	27	0820	0820	0828	S14	E77	4102	03	5.2	8	SF	C .8	3	C				
KAND	27	0845E	0859	0912	S17	E23		03	1.1	27D	SB			C		66	.8	E
LEAR	27	0845	0851	0917	S17	E24	4098	03	1.2	32	SF	C 1.0	3	C		51		F
LEAR	27	0923	0923	0929	S13	E76	4102	03	5.1	6	SF	C .9	3	C				
GOES	27	1049	1053	1056						7		C .9						
GOES	27	1059	1102	1106						7		C .9						
GOES	27	1159	1202	1207						8		C .8						
GOES	27	1503	1514	1520						17		C .8						
HOLL	27	1538	1538	1601	S09	W68	4095	02	22.5	23	SF		3	C		16		
GOES	27	1741	1748	1753						12		C 1.3						
PALE	27	1810	1831	1834	S13	W66	4095	02	22.8	24	SF		3	C		16		
PALE	27	1904	1909	1925	S11	W66	4095	02	22.8	21	SF		3	C		28		
HOLL	27	1909	1911	1918	S11	W65	4095	02	22.9	9	SF		3	C		27		
HOLL	27	1940	1949	2038	S11	W66	4095	02	22.9	58	SN		3	C		25		K
HOLL	27	1940	2008	2038	S11	W66	4095	02	22.9	58	SN		3	C		29		K
PALE	27	1948	1949	2009	S13	W64	4095	02	23.0	21	SF		3	C		24		
HOLL	27	2049	2103	2115	S10	W62	4095	02	23.2	26	SF		3	C		29		
GOES	27	2122	2125	2127						5		C .8						

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HOLL	27	2145	2157	2202	S11	W66	4095	02	22.9	17	SN		3	C		42		
HOLL	27	2152	2157	2244	S16	E67	4102	03	5.0	52	SN	C 3.7	3	C		95		F
PALE	27	2158E	2200U	2206D	S15	E69	4102	03	5.1	8D	1N	C 3.7	3	C		121		F
GOES	27	2336	2341	2348						12		C 1.4						
LEAR	27	2340	2342	2349	S11	W69	4095	02	22.8	9	SF		3	C		21		F
LEAR	27	2353		0013	N15	E17	4097	03	1.3	20	SN	C 2.4	3	C		100		F
HOLL	27	2353	2359	0015	N15	E16	4097	03	1.2	22	SB	C 2.4	3	C		118		F
GOES	28	0100	0110	0127			4098			27		C .9						
LEAR	28	0122	0123	0128	S15	E21	4098	03	1.6	6	SF		3	C		35		
LEAR	28	0439	0441	0444	N13	W31	4094	02	25.9	5	SF		3	C		31		
LEAR	28	0606	0610	0618	S14	E64	4102	03	5.1	12	SF		3	C		33		F
GOES	28	0748	0843	1009						141		C .7						
LEAR	28	0809	0811	0823	S14	E63	4102	03	5.1	14	SF		3	C		29		F
LEAR	28	0841	0843	0854	S14	E18	4098	03	1.7	13	SN		3	C		37		
GOES	28	1126	1130	1135						9		C 1.0						
GOES	28	1215	1219	1221						6		C 1.6						
RAMY	28	1234	1247	1251	S14	E16	4098	03	1.7	17	SF		3	C		34		
RAMY	28	1318	1320	1331	S22	E72	4102	03	6.1	13	SF	C 1.0	3	C		20		
GOES	28	1336	1338	1342						6		C 1.2						
RAMY	28	1425	1427	1444	S15	E14	4098	03	1.7	19	SF	C 2.1	3	C		86		
RAMY	28	1428	1431	1436	S22	E69		03	5.9	8	SF		3	C		16		
HOLL	28	1428E	1431	1444	S15	E14	4098	03	1.7	16D	SF		3	C		67		F
RAMY	28	1525	1525	1545	S15	E14	4098	03	1.7	20	SF		3	C		53		
HOLL	28	1525	1525	1545	S15	E14	4098	03	1.7	20	SF		3	C		55		
HOLL	28	1602	1606	1618	N15	W37	4094	02	25.9	16	SF		3	C		18		
RAMY	28	1621	1621	1639	S15	E13	4098	03	1.7	18	SF		3	C		31		F
HOLL	28	1621	1621	1636	S15	E13	4098	03	1.7	15	SF		3	C		22		
HOLL	28	1757	1803	1816	N12	W42	4094	02	25.6	19	SF		3	C		27		
PALE	28	1806	1808	1808	N10	W43	4094	02	25.5	2	SF		2	C		23		
PALE	28	1812	1818	1824	S19	E68	4104	03	6.0	12	SF		2	C		73		
RAMY	28	2013	2019	2030	S21	E68	4104	03	6.1	17	SF		3	C		34		
PALE	28	2014	2019	2031	S20	E67	4104	03	6.0	17	SF		3	C		39		
HOLL	28	2014	2015	2036	S22	E70	4104	03	6.2	22	SN		3	C		13		
PALE	28	2233	2234	2241	S12	E54	4102	03	5.0	8	SF	C 1.3	3	C		40		F
GOES	28	2246	2258	2306						20		C 2.9						
LEAR	28	2323	2324	2329	S12	W81	4095	02	22.9	6	SF		3	C				

"Remarks":

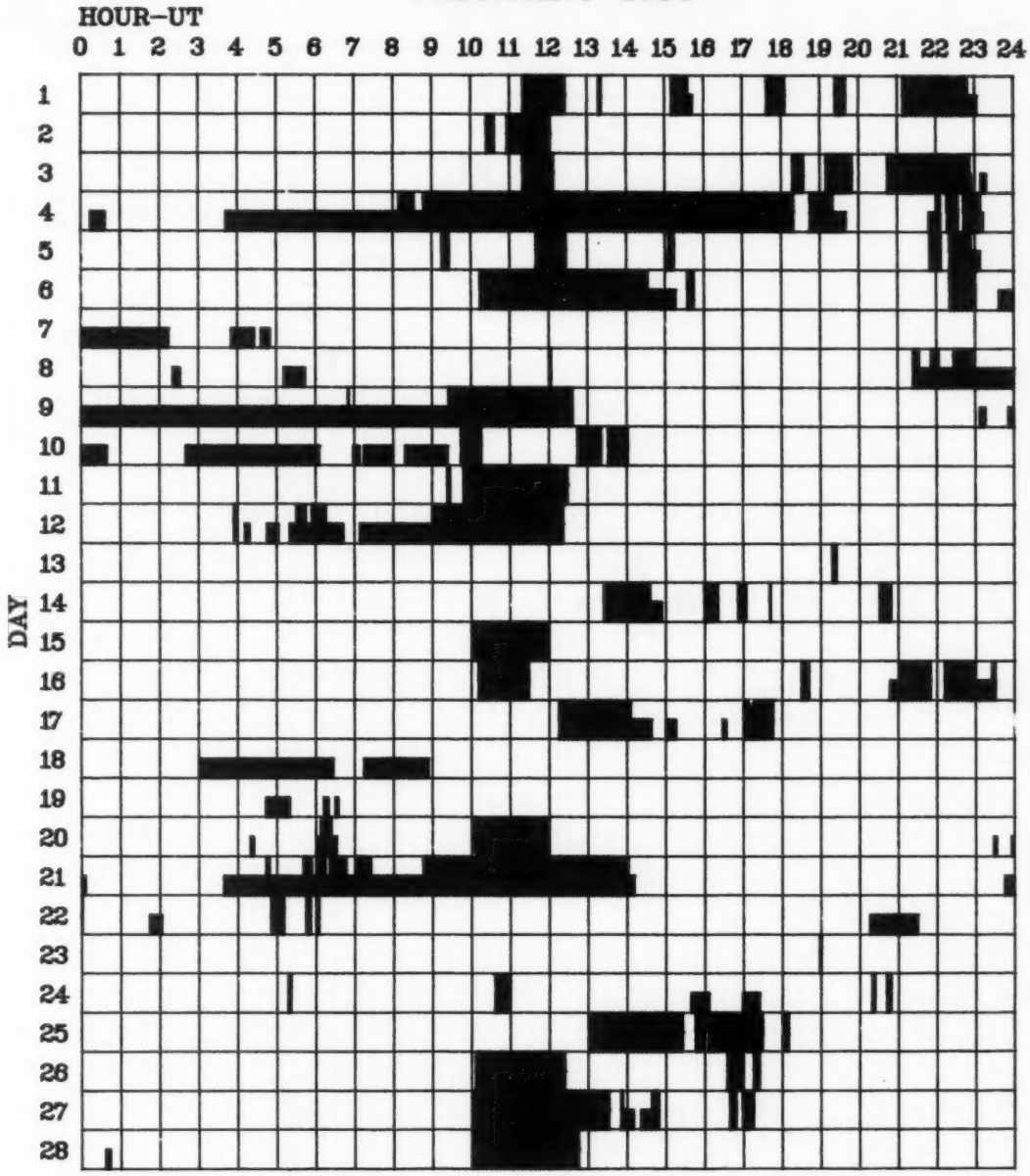
A = Eruptive prominence whose base is less than 90° from central meridian.
B = Probably the end of a more important flare.
C = Invisible 10 minutes before.
D = Brilliant point.
E = Two or more brilliant points.
F = Several eruptive centers.
G = No visible spots in the neighborhood.
H = Flare accompanied by high-speed dark filament.
I = Active region very extended.
J = Distinct variations of plage intensity before or after the flare.
K = Several intensity maxima.
L = Existing filaments show signs of sudden activity.
M = White-light flare.
N = Continuous spectrum shows effects of polarization.
O = Observations have been made in the H and K lines of CaII.
P = Flare shows helium D3 in emission.
Q = Flare shows Balmer continuum in emission.
R = Marked asymmetry in H-alpha line suggests ejection of high-velocity material.
S = Brightness follows disappearance of filament in same position.
T = Region active all day.
U = Two bright branches, parallel or converging.
V = Occurrence of an explosive phase: important, expansion within roughly 1 minute that often includes a significant intensity increase.
W = Great increase in area after time of maximum intensity.
X = Unusually wide H-alpha line.
Y = System of loop-type prominences.
Z = Major sunspot umbra covered by flare.

The 4-digit number appearing under "Remarks" denotes the calcium plage region number assigned by the Space Environment Services Center in Boulder, Colorado.

INTERVALS OF NO FLARE PATROL OBSERVATION

FOR PRECEDING SOLAR FLARE TABLE

FEBRUARY 1983



Observatories included in total patrol:

Bucharest	Istanbul	Learmonth	Monte Mario	Peking
Holloman	Kandilli	Manila	Palehua	Ramey
				Wendelstein

Times of no flare patrol are shown by the shaded area for each day divided into times of no cinematographic patrol (bottom half of day) and times of neither visual nor cinematographic patrol (top half of day).

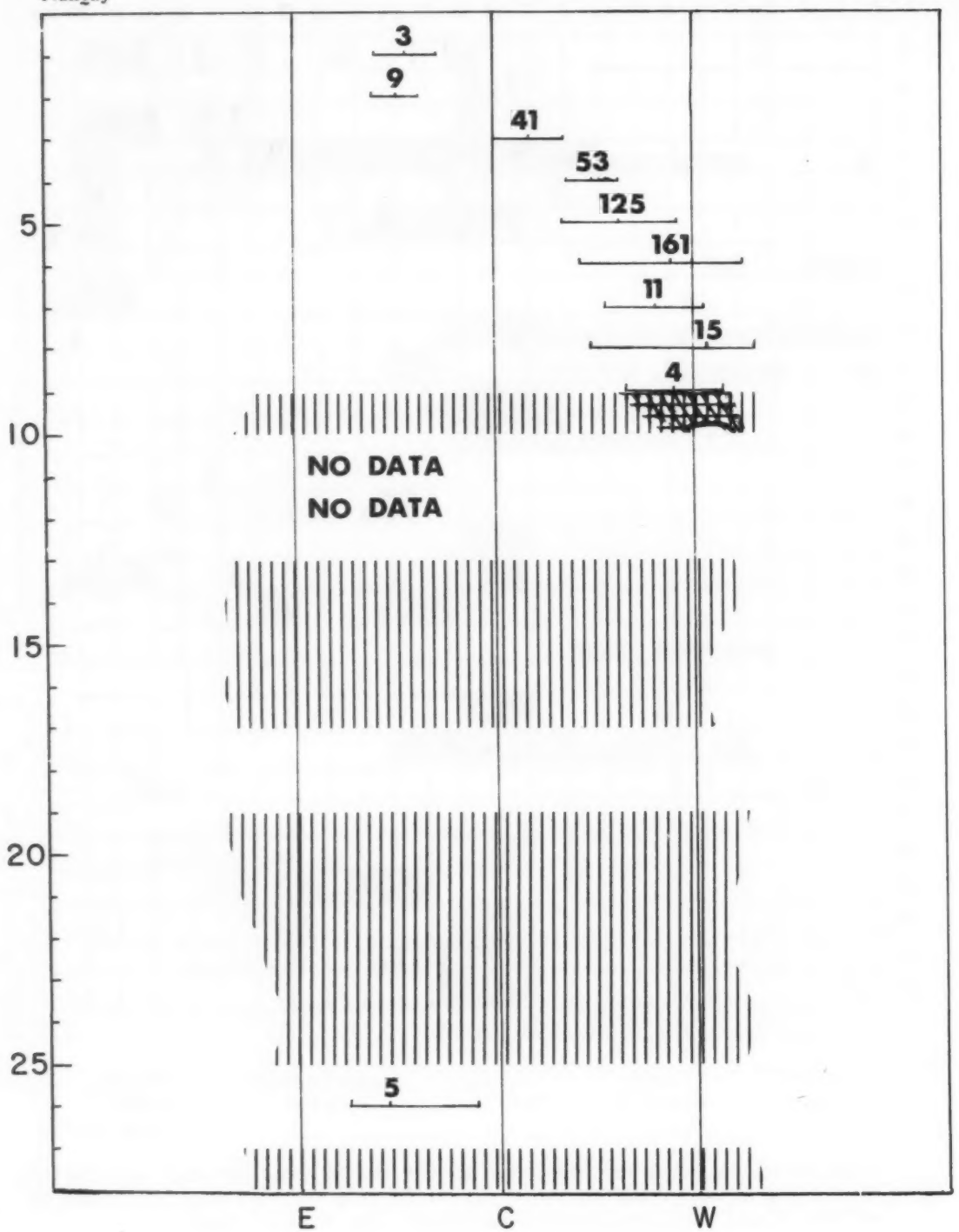
20
Feb 83

SOLAR RADIO EMISSION
INTERFEROMETRIC OBSERVATION

FEBRUARY 1983

Nançay

169 MHz

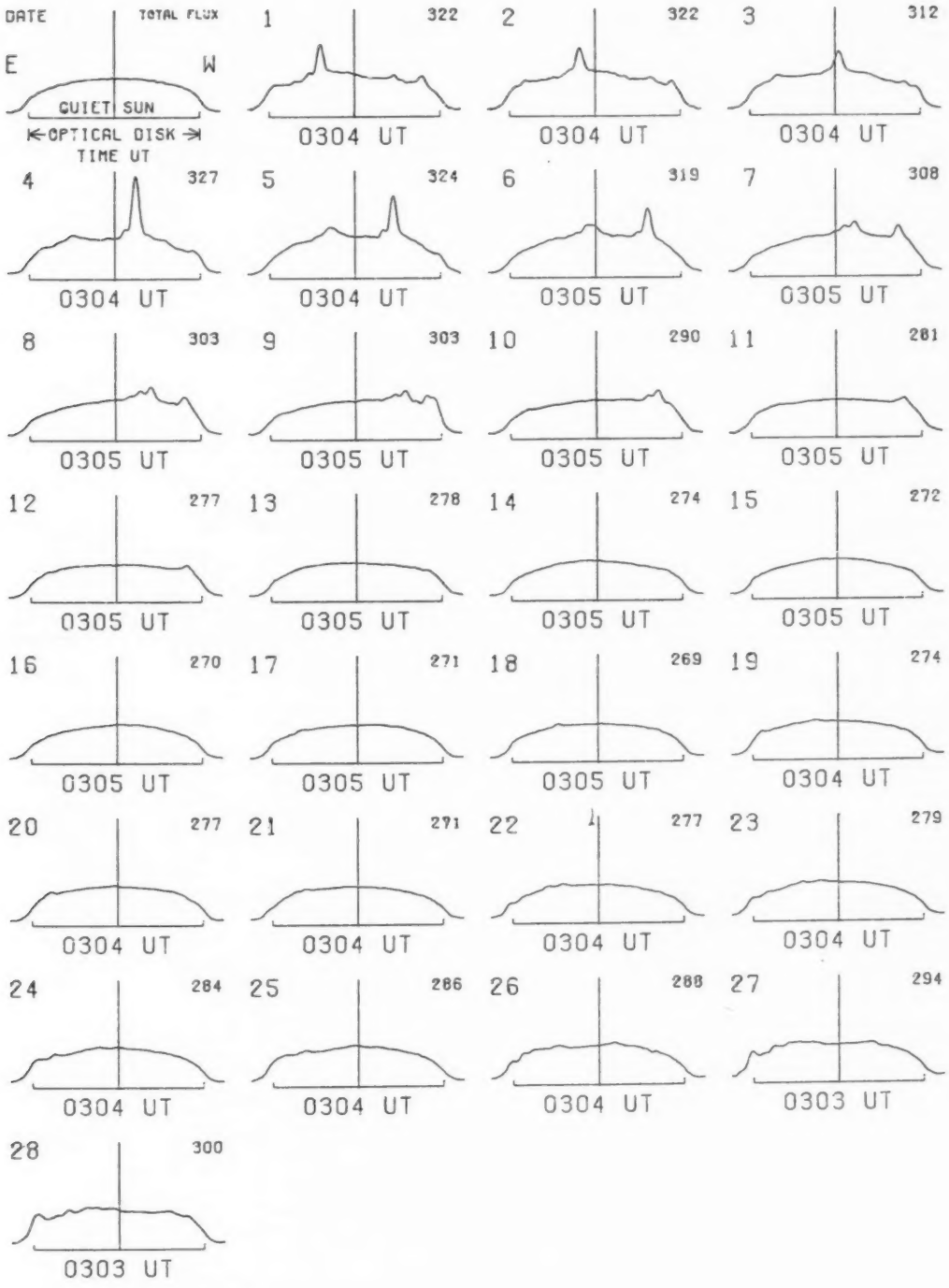


EAST-WEST SOLAR SCANS

FEBRUARY 1983

TOYOKAWA, JAPAN

3 CM
FAN BEAM WITH 1.1 MINUTES OF ARC



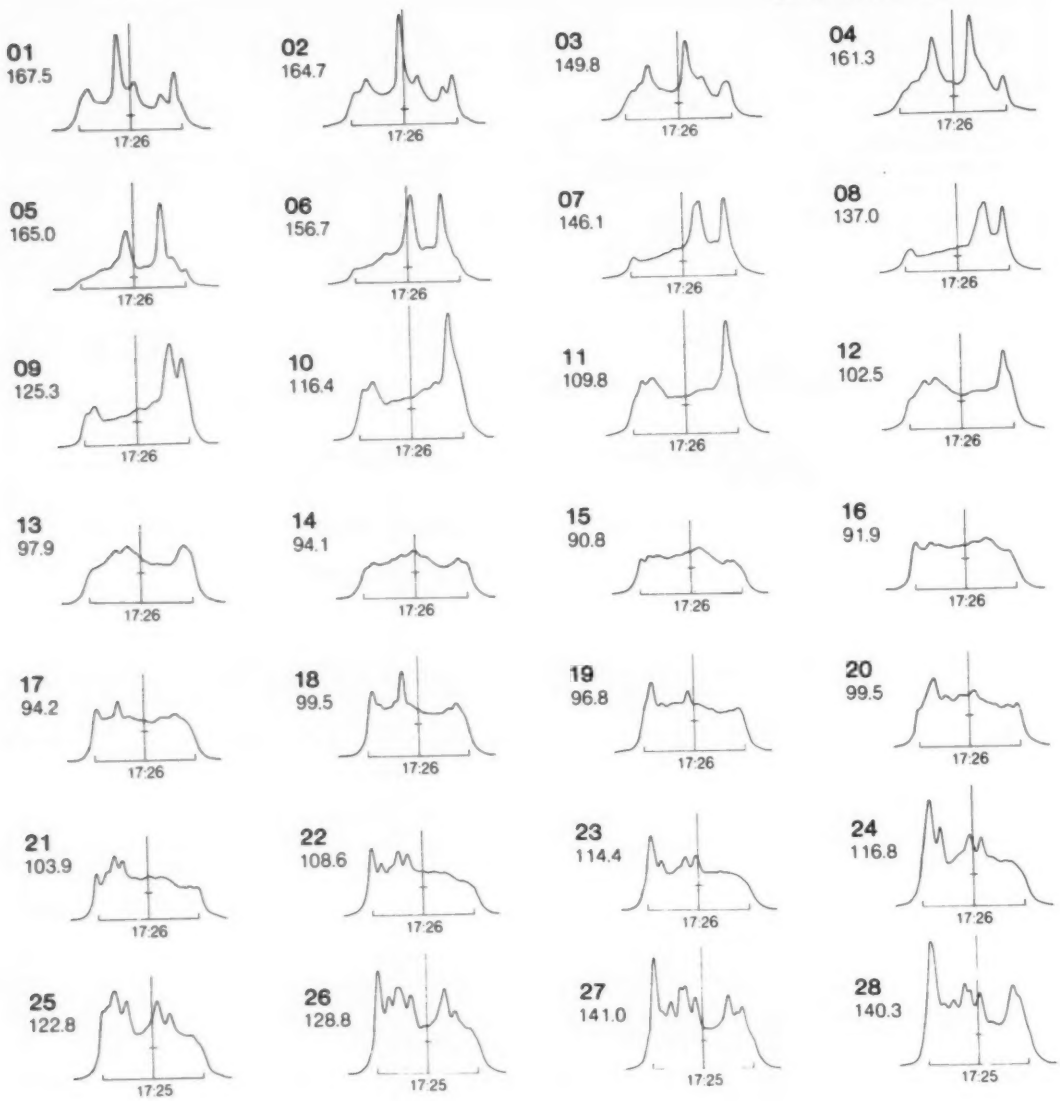
22
Feb 83

EAST-WEST SOLAR SCANS

FEBRUARY 1983

ALGONQUIN RADIO OBSERVATORY
CANADA

10·7 cm
Fan Beam with 1·5 minutes of arc
E-W Resolution



DATE
TOTAL FLUX
ESTIMATED QUIET SUN LEVEL
E
W
PHOTOSPHERE
TIME U T

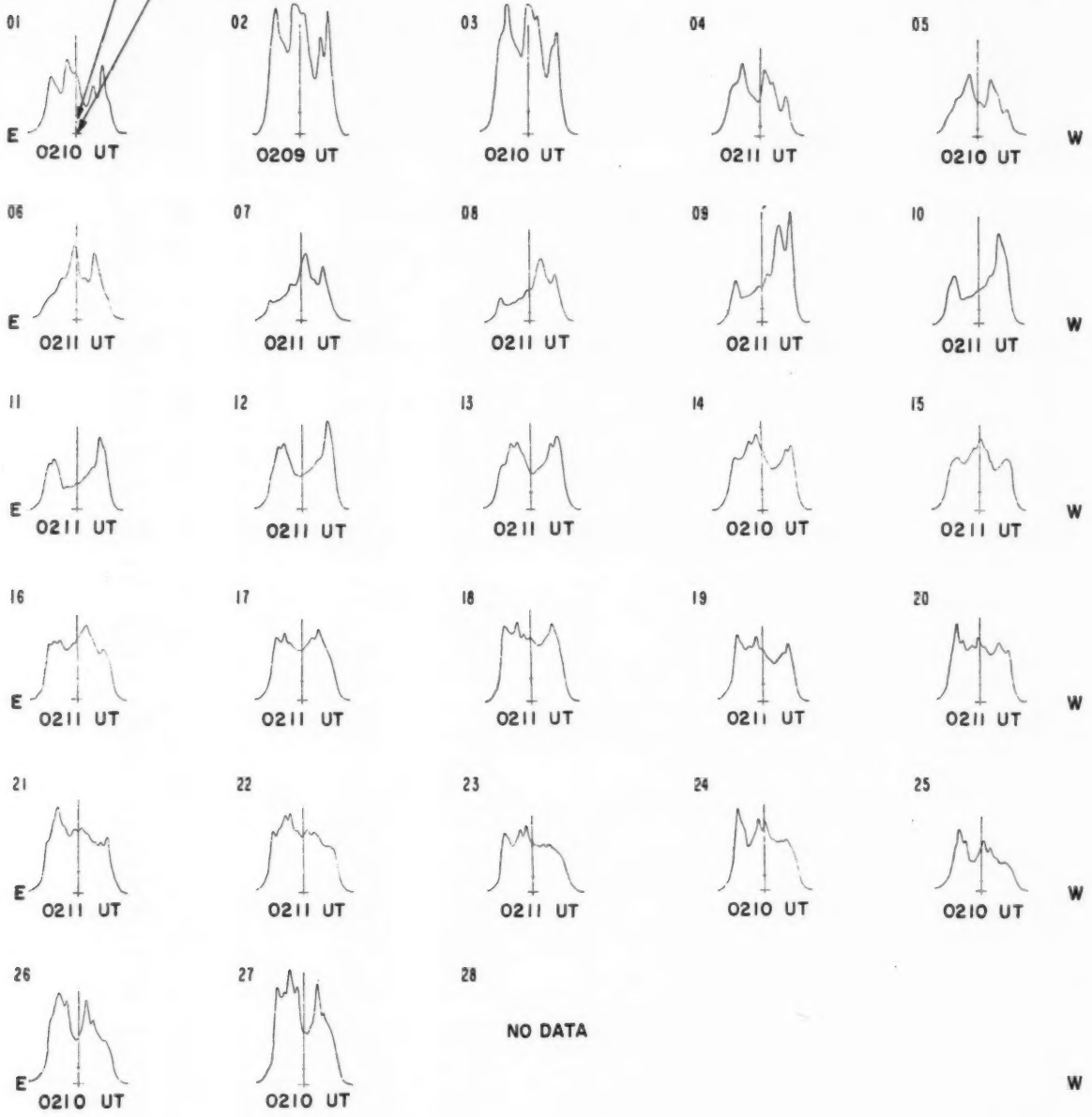
EAST-WEST SOLAR SCANS

FEBRUARY 1983

Fleurs, Australia

Estimated Quiet Sun Level
Cold Sky Level

21 cm
Fan-Beam with 2 minutes of arc
E-W Resolution



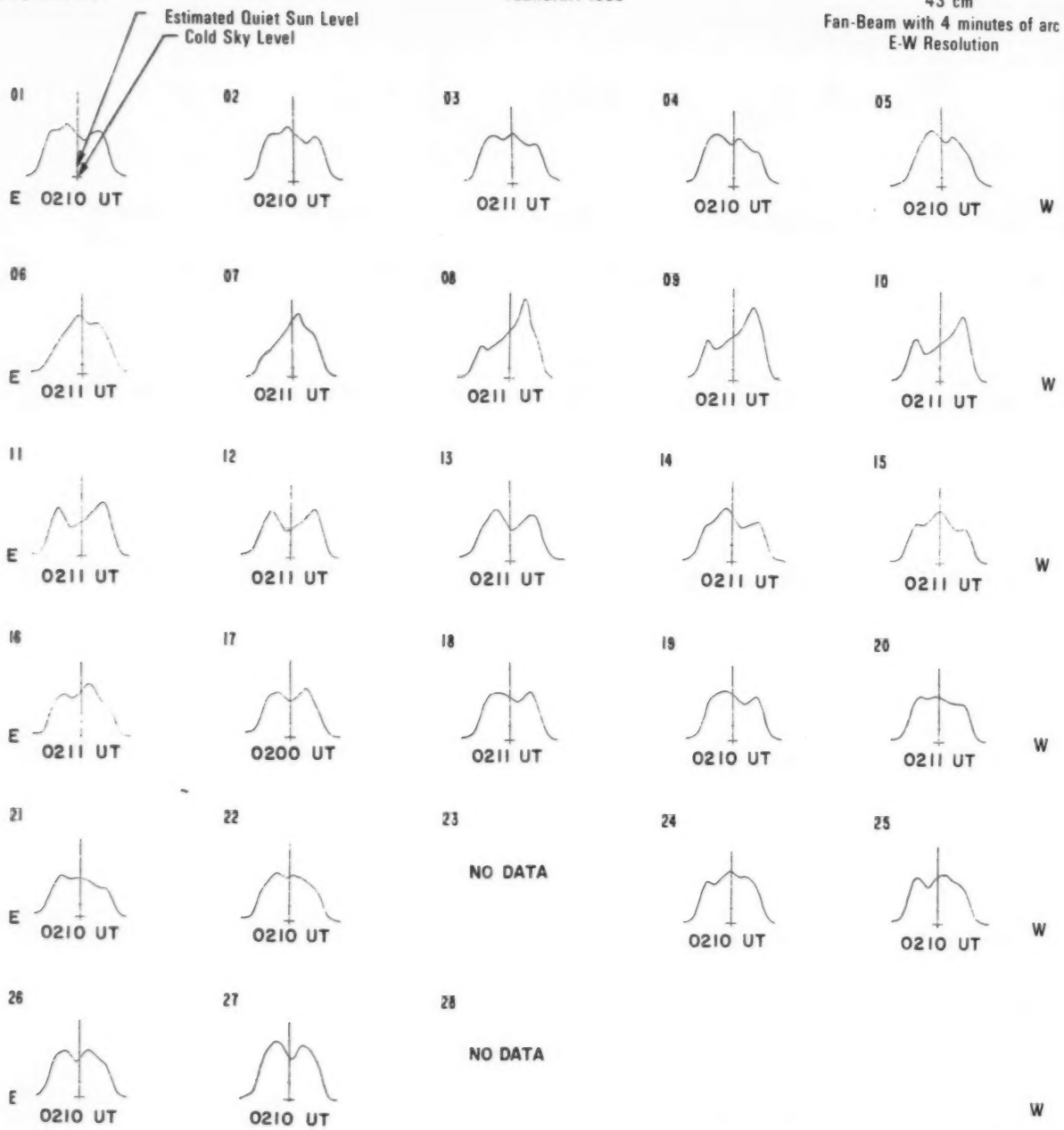
24
Feb 83

EAST-WEST SOLAR SOLAR SCANS

Fleurs, Australia

FEBRUARY 1983

43 cm
Fan-Beam with 4 minutes of arc
E-W Resolution



SOLAR RADIO EMISSION
SELECTED FIXED FREQUENCY EVENTS

FEBRUARY 1983

Day	Freq	Sta	Type		Start (UT)	Time of Maximum (UT)	Duration (Min)	Flux Density Peak (10 -22 W/m 2 Hz)	Flux Density Mean (10 -22 W/m 2 Hz)	Int	Remarks
01	8800	LEAR	20	GRF	0149.5	0150.8	9.5	9.0			QL=6 ST=2 TYP=2
	8800	LEAR	20	GRF	0214.1	0217.3	5.9	13.0			QL=6 ST=2 TYP=2
	2695	LEAR	20	GRF	0645.3	0648.6	16.7	10.0			QL=6 ST=2 TYP=2
	8800	LEAR	20	GRF	0646.6	0648.6	4.4	4.0			QL=6 ST=2 TYP=2
	8800	LEAR	8	S	0734.3	0735.3	1.8	49.0			QL=6 ST=2 TYP=3
	2695	LEAR	8	S	0734.6	0735.6	1.2	16.0			QL=6 ST=2 TYP=3
	2800	OTTA	21	GRF	1750.0	1903.0	185.0	18.2	6.0		
	2800	OTTA	1	S	1854.0	1856.0	5.0	6.4	2.8		
	2695	SGMR	4	S/F	1855.3	1855.8	11.0	20.0			QL=6 ST=2 TYP=3
	8800	SGMR	8	S	1906.1	1906.5	.5	20.0			QL=6 ST=2 TYP=3
	8800	PALE	8	S	1947.1E	1948.8	1.7D	15.0			QL=1 ST=2 TYP=3
02	8800	LEAR	4	S/F	0309.3	0310.0	5.7	8.0			QL=6 ST=2 TYP=3
	2695	LEAR	8	S	1041.6	1041.8	.9	19.0			QL=5 ST=2 TYP=3
	8800	LEAR	8	S	1041.8	1042.0	.7	40.0			QL=5 ST=3 TYP=3
	2800	OTTA	20	GRF	1445.0	1600.0	205.0	5.2	2.5		
03	2695	LEAR	49	GB	0541.0	0543.3	21.6	13.0			QL=6 ST=3 TYP=6
	8800	LEAR	49	GB	0541.3	0543.3	21.3	3500.0			QL=6 ST=3 TYP=6
	8800	ATHN	49	GB	0551.3	0600.3	20.5	3399.0			QL=5 ST=2 TYP=6
	2695	ATHN	49	GB	0551.3	0600.6	124.2	1000.0			QL=5 ST=2 TYP=6
	8800	ATHN	47	GB	0611.8	0659.5	104.7	200.0			QL=5 ST=2 TYP=5
	8800	LEAR	49	GB	0612.3	0612.8	16.2	4400.0			QL=6 ST=2 TYP=7
	2695	LEAR	49	GB	0612.3	0612.8	16.2	2699.0			QL=6 ST=2 TYP=7
	2695	LEAR	49	GB	0628.5	0628.6	11.3	2800.0			QL=6 ST=2 TYP=6
	8800	LEAR	49	GB	0628.5	0628.6	11.3	9000.0			QL=6 ST=2 TYP=6
	2695	LEAR	49	GB	0639.8	0640.0	13.8	2800.0			QL=6 ST=2 TYP=6
	8800	LEAR	49	GB	0639.8	0640.0	13.8	9000.0			QL=6 ST=2 TYP=6
	2695	LEAR	49	GB	0653.6	0653.8	11.0	2800.0			QL=6 ST=2 TYP=6
	8800	LEAR	49	GB	0653.6	0653.8	11.0	9000.0			QL=6 ST=2 TYP=6
	2695	LEAR	49	GB	0720.8	0720.8	120.5	2800.0			QL=6 ST=2 TYP=6
	8800	LEAR	49	GB	0720.8	0720.8	47.2	9000.0			QL=6 ST=2 TYP=6
	2800	OTTA	240	R	1746.0	1750.0	4.0	1.8	.9		
	8800	PALE	47	GB	1829.8	1832.0	7.0	58.0			QL=6 ST=2 TYP=5
	2800	OTTA	240	AR	1830.0	1840.0	10.0	2.8	1.4		
	8800	SGMR	47	GB	1831.5	1832.1	4.0	61.0			QL=6 ST=3 TYP=5
	2800	OTTA	40	F	1833.5	1834.6	1.5	3.6			
	2800	OTTA	20	GRF	1850.0	1855.0	20.0	3.6	1.8		
04	8800	PALE	8	S	0053.1	0053.3	.5	24.0			QL=6 ST=2 TYP=3
	8800	LEAR	8	S	0053.1	0053.3	.7	42.0			QL=6 ST=2 TYP=3
	8800	LEAR	4	S/F	0146.3	0147.0	4.7	13.0			QL=6 ST=3 TYP=3
	8800	LEAR	4	S/F	0220.1	0220.5	4.7	20.0			QL=6 ST=2 TYP=3
	8800	LEAR	4	S/F	0252.6	0253.0	4.4	21.0			QL=6 ST=2 TYP=3
	2800	OTTA	23	GRF	1405.0	1445.0	170.0	5.6	3.2		
	2800	OTTA	2	S/F	1629.0	1632.2	8.0	7.4	3.4		
	2800	OTTA	21	GRF	1730.0	1830.0	105.0	6.2	3.1		
	2800	OTTA	1	S	1732.0	1733.0	8.0	2.6	1.3		
	2800	OTTA	1	S	1946.0	1946.7	2.0	3.0	1.5		
	2800	OTTA	260	FAL	2140.0	2200.0	20.0	-2.8	-1.8		
	8800	LEAR	8	S	2242.3	2242.8	1.2	32.0			QL=5 ST=2 TYP=3
	2695	LEAR	8	S	2242.3	2243.0	1.5	17.0			QL=5 ST=2 TYP=3
	2695	PENT	3	S	2242.5	2243.0	3.0	16.8	5.6		
	2695	PALE	8	S	2242.6	2242.8	.5	15.0			QL=6 ST=2 TYP=3
	8800	PALE	8	S	2242.6	2242.8	.5	23.0			QL=6 ST=2 TYP=3
05	8800	LEAR	8	S	0029.8	0030.6	1.8	20.0			QL=6 ST=2 TYP=3
	8800	LEAR	4	S/F	0144.5	0145.8	2.6	22.0			QL=6 ST=2 TYP=3
	2695	LEAR	4	S/F	0145.1	0146.3	3.9	15.0			QL=6 ST=2 TYP=3
	8800	LEAR	47	GB	0436.3	0437.1	2.7	54.0			QL=6 ST=2 TYP=5
	2695	LEAR	4	S/F	0436.3	0437.3	2.3	32.0			QL=6 ST=2 TYP=3
	8800	LEAR	47	GB	0659.1	0701.5	11.4	130.0			QL=6 ST=2 TYP=5
	2695	LEAR	47	GB	0700.1	0701.8	5.2	70.0			QL=6 ST=2 TYP=5
	8800	LEAR	47	GB	0929.8	0933.3	8.5	100.0			QL=6 ST=2 TYP=5
	2695	LEAR	47	GB	0932.6	0933.3	3.2	60.0			QL=6 ST=2 TYP=5
	2800	OTTA	21	GRF	1332.0		17.0	3.8			
	2800	OTTA	40	F	1336.0	1340.7	9.0	5.6			
	8800	SGMR	4	S/F	1340.1	1340.3	3.9	26.0			QL=6 ST=2 TYP=3
	2800	OTTA	23	GRF	1610.0	1749.0	305.0	13.0			
	2800	OTTA	3	S	1622.2	1622.7	2.5	13.0	4.8		
	2800	OTTA	22	GRF	1733.0	1733.5	11.0	8.4	4.0		

SOLAR RADIO EMISSION
SELECTED FIXED FREQUENCY EVENTS

FEBRUARY 1983

Day	Freq	Sta	Type		Start (UT)	Time of Maximum (UT)	Duration (Min)	Flux Density Peak (10 -22 W/m 2 Hz)	Flux Density Mean (10 -22 W/m 2 Hz)	Int	Remarks
06	2695	LEAR	8	S	0508.3	0508.5	.3	20.0			QL=6 ST=2 TYP=3
	8800	LEAR	4	S/F	0515.8	0517.0	3.0	20.0			QL=6 ST=2 TYP=3
	2695	LEAR	8	S	0516.1	0516.3	.4	16.0			QL=6 ST=2 TYP=3
	2695	LEAR	4	S/F	0526.6	0527.1	2.7	11.0			QL=6 ST=2 TYP=3
	8800	LEAR	4	S/F	0526.6	0528.3	10.0	8.0			QL=6 ST=2 TYP=3
	8800	LEAR	8	S	0602.1	0602.6	2.0	20.0			QL=6 ST=2 TYP=3
	2695	LEAR	8	S	0602.6	0603.1	.5	13.0			QL=6 ST=2 TYP=3
	8800	LEAR	4	S/F	0610.3	0612.0	7.8	23.0			QL=6 ST=2 TYP=3
	2695	LEAR	4	S/F	0611.0	0612.5	8.1	16.0			QL=6 ST=2 TYP=3
	2800	OTTA	20	GRF	1852.0	1854.0	28.0	3.0	1.6		
07	2800	OTTA	20	GRF	1545.0	1635.0	105.0	2.6	1.0		
	2800	OTTA	21	GRF	2025.0	2045.0	90.0	3.0	1.6		
	2800	OTTA	3	S	2029.2	2029.5	1.0	10.4	2.8		
	2800	OTTA	1	S	2032.0	2032.6	1.5	3.2	1.1		
08	2695	PENT	46F	C	2216.0	2312.0	73.0	54.0	24.2		
	8800	PALE	4	S/F	2301.3	2305.0	6.7	24.0			QL=5 ST=2 TYP=3
	2695	LEAR	4	S/F	2302.0	2304.6	14.6	28.0			QL=6 ST=2 TYP=3
	8800	LEAR	4	S/F	2302.6	2304.8	12.2	33.0			QL=6 ST=2 TYP=3
	2695	PALE	4	S/F	2305.6	2307.1	2.4	25.0			QL=5 ST=2 TYP=3
	2695	LEAR	8	S	2316.6	2316.6	.2	33.0			QL=6 ST=2 TYP=3
	2695	PENT	29	PBI	2329.0	2329.0	30.0D	15.4			
09	2695	PENT	21	GRF	2210.0	2225.0	30.0	2.4	1.2		
	2695	PENT	45	C	2217.8	2219.0	6.0	10.4	3.6		
	2695	PALE	8	S	2218.8	2219.0	.3	11.0			QL=6 ST=2 TYP=3
10	2800	OTTA	32	ABS	1800.0	1825.0	40.0	-2.4	-1.2		
11	2800	OTTA	46F	C	1305.0	1310.0	32.0	26.0	9.4		
	2695	ATHN	20	GRF	1306.5	1310.5	25.1	26.0			QL=6 ST=2 TYP=2
	2695	SGMR	8	S	1309.5	1310.3	1.1	23.0			QL=6 ST=2 TYP=3
	2800	OTTA	20	GRF	1338.0	1445.0	180.0	26.0			
	2695	SGMR	20	GRF	1340.0	1449.1	99.6	33.0			QL=6 ST=2 TYP=2
12	2695	LEAR	8	S	0723.1	0723.1	.2	30.0			QL=1 ST=2 TYP=3
	2695	PENT	20	GRF	2230.0	2320.0	90.0	6.4			
18	2695	LEAR	8	S	0749.3	0749.3	.2	28.0			QL=1 ST=2 TYP=3
	2800	OTTA	20	GRF	1720.0	1800.0	80.0	1.8	.9		
	2800	OTTA	20	GRF	1945.0	2050.0	125.0	2.2	1.4		
22	2800	OTTA	21	GRF	1915.0	1955.0	240.0	7.0	3.5		
	2800	OTTA	4	S/F	1925.5	1933.0	27.0	180.0	25.6		
	2695	PALE	47	GB	1926.6	1930.3		73.0			QL=6 ST=3 TYP=5
	8800	PALE	47	GB	1928.1	1930.3		310.0			QL=6 ST=3 TYP=5
	8800	SGMR	47	GB	1928.3	1930.3	8.5	320.0			QL=6 ST=2 TYP=5
	2695	SGMR	47	GB	1928.3	1930.8	8.7	93.0			QL=6 ST=2 TYP=5
	2695	PENT	4	S/F	2005.5	2008.0	5.5	38.0	8.6		
23	2695	LEAR	8	S	0728.1	0728.1	.2	4.0			QL=2 ST=2 TYP=3
	8800	LEAR	8	S	0728.1	0728.1	.2	11.0			QL=6 ST=2 TYP=3
	2800	OTTA	1	S	2102.0	2103.0	3.0	3.2	1.1		
24	2800	OTTA	21	GRF	1835.0	2145.0	320.0	6.0	3.0		
	2800	OTTA	4	S/F	1844.5	1848.4	7.4	23.0	12.0		
	2800	OTTA	29	PBI	1852.0	1852.0	25.0	4.8	2.0		
25	2800	OTTA	21	GRF	2028.0	2120.0	170.0	9.6	4.8		
	2800	OTTA	4	S/F	2028.5	2033.0	13.0	41.0	13.0		
	2695	SGMR	4	S/F	2029.8	2033.1	7.0	48.0			QL=6 ST=2 TYP=3
	8800	SGMR	4	S/F	2030.8	2031.8	4.7	19.0			QL=6 ST=2 TYP=3
	2695	PALE	4	S/F	2030.8	2033.1	3.7	31.0			QL=6 ST=3 TYP=3
	8800	PALE	8	S	2031.8	2033.0	1.3	13.0			QL=6 ST=3 TYP=3
	2800	OTTA	1	S	2043.0	2046.0	6.0	2.2	1.1		
	2695	SGMR	8	S	2044.1	2044.3	.5	11.0			QL=6 ST=2 TYP=3
	2800	OTTA	1	S	2100.0	2101.0	5.0	2.2	1.0		
26	2695	PENT	22	GRF	2150.0	2330.0	150.0D	6.8			
27	2800	OTTA	20	GRF	1740.0	1810.0	75.0	2.0	1.2		

SOLAR RADIO EMISSION
SELECTED FIXED FREQUENCY EVENTS

FEBRUARY 1983

Day	Freq	Sta	Type		Start (UT)	Time of Maximum (UT)	Duration (Min)	Flux Density Peak (10 -22 W/m 2 Hz)	Flux Density Mean (10 -22 W/m 2 Hz)	Int	Remarks
27	2695	PALE	8	S	1743.1	1744.5	1.5	13.0			QL=6 ST=2 TYP=3
	8800	PALE	4	S/F	1743.1	1744.5	2.2	26.0			QL=6 ST=2 TYP=3
	2800	OTTA	21	GRF	1930.0	1950.0	60.0	1.8	1.0		
	2800	OTTA	2	S/F	2000.6	2001.0	1.0	4.8			
	2800	OTTA	8	S	2119.3	2119.4	.2	2.8			
	2800	OTTA	21	GRF	2140.0	2220.0	100.0	5.0	3.2		
	2800	OTTA	20	GRF	2158.0	2201.5	11.0	4.8	1.8		
	2695	PENT	3	S	2357.0	2358.8	5.0	13.2	3.6		
	2695	LEAR	4	S/F	2357.8	2358.6	3.2	18.0			QL=6 ST=2 TYP=3
28	2800	OTTA	21	GRF	1325.0	1435.0	135.0	4.4	2.4		
	2800	OTTA	2	S/F	1425.0	1426.2	7.0	5.6	2.5		
	2800	OTTA	2	S/F	1524.8	1525.3	3.0	6.2	3.1		
	2695	PENT	22	GRF	2200.0	2300.0	110.0	3.2	2.2		

Observatories:

BERN = Berne MANI = Manila OTTA = Ottawa ARO PENT = Penticton SGMR = Sagamore Hill
LEAR = Learmonth ATHN = Athens PALE = Palehua

Explanation of Type Code:

1 Simple 1
2 Simple 1F
3 Simple 2
4 Simple 2F
5 Simple
6 Minor
7 Minor +
8 Spike
20 Simple 3
21 Simple 3A
22 Simple 3F
23 Simple 3AF
24 Rise
25 Rise A
26 Fall
27 Rise and Fall
28 Precursor
29 Post Burst Increase
30 Post Burst Increase A
31 Post Burst Decrease
32 Absorption
40 Fluctuation
41 Group of Bursts
42 Series of Bursts
43 Onset on Noise Storm
44 Noise Storm In Progress
45 Complex
46 Complex F
47 Great Burstise Storm
48 Major
49 Major +

INFERRED IP MAGNETIC FIELD

BARTELS ROTATION	DATE	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27
2024	AUG 26	- -	-	-	TA -	TA -	-	TA -	-	-	TA -	-	-	-	-	TA -	-	TA -	-	-	-	-	TA -	-	-	-	-	-
2025	SEP 22	-	-	-	-	-	-	-	AT -	TA -	-	-	-	TA -	-	TA -	TA -	TA -	-	AT -	-	TA -	AT -	TA -	AT -	TA -	TA -	TA -
2026	OCT 19	AT -	TA -	TA -	-	-	-	-	TA -	TA -	-	TA -	-	-	-	-	TA -	-	-	-	-	-	AT -	TA -	-	-	-	-
2027	NOV 15	-	-	-	AT -	AT -	-	-	-	-	AT -	-	-	-	-	-	TA -	-	TA -	TA -	AT -	-	-	-	-	-	AT -	-
2028	DEC 12	TA -	-	-	-	AT -	AT -	-	-	AT -	TA -	-	-	-	-	-	-	AT -	-	AT -	TA -	-	-	-	-	TA -	-	- -
2029	1982 JAN 8	-	-	-	-	-	TA -	TA -	-	-	-	-	-	-	TA -	-	-	TA -	-	-	-	AT -	-	-	-	AT -	-	-
2030	FEB 4	-	-	-	TA -	TA -	TA -	TA -	-	-	TA -	-	-	-	-	-	TA -	-	-	-	-	-	-	-	TA -	-	-	TA -
2031	MAR 3	-	-	-	-	-	TA -	TA -	-	TA -	TA -	-	TA -	-	-	TA -	-	-	-	TA -	TA -	-	-	-	-	-	-	AT -
2032	MAR 30	-	TA -	-	TA -	-	-	-	-	-	-	TA -	-	-	-	-	-	AT -	TA -	-	TA -	-	-	-	-	-	-	-
2033	APR 26	- -	AT -	-	-	-	-	-	TA -	TA -	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	AT -	AT -	-
2034	MAY 23	-	-	-	AT -	- -	TA -	-	-	-	-	- -	AT -	-	-	-	-	-	-	-	- -	- -	- -	- -	- -	-	-	TA -
2035	JUN 19	-	-	-	-	-	-	-	-	- -	-	-	-	TA -	-	-	-	-	-	-	-	-	-	TA -	-	-	-	-
2036	JUL 16	-	- -	-	- -	- -	TA -	-	-	-	-	AT -	-	-	-	AT -	-	-	-	-	-	-	-	-	-	-	-	-
2037	AUG 12	-	-	-	- -	-	-	- -	-	TA -	-	- -	TA -	TA -	TA -	-	-	-	TA -	-	TA -	-	-	-	-	-	-	-
2038	SEP 8	TA -	AT -	-	-	-	-	-	-	-	-	-	-	-	TA -	-	AT -	-	-	-	-	-	TA -	-	-	-	-	-
2039	OCT 5	-	AT -	-	AT -	-	-	-	-	-	AT -	TA -	-	-	-	-	AT -	-	-	-	-	-	-	TA -	-	-	-	-
2040	NOV 1	AT -	-	-	-	AT -	-	-	-	-	AT -	-	-	-	-	AT -	-	-	TA -	-	-	-	- -	-	TA -	AT -	-	-
2041	NOV 28	TA -	-	- -	- -	-	AT -	-	-	-	-	-	-	TA -	TA -	-	-	-	-	-	-	-	AT -	AT -	-	-	-	-
2042	DEC 25	-	-	AT -	AT -	-	-	-	TA -	-	-	-	-	-	-	-	-	-	TA -	TA -	-	-	-	AT -	-	-	-	-
2043	1983 JAN 21	- -	-	-	-	-	-	-	-	-	TA -	-	-	-	-	TA -	AT -	-	-	-	-	-	-	-	- -	-	-	-
2044	FEB 17	-	-	-	-	-	-	-	-	-	-	TA -	-															

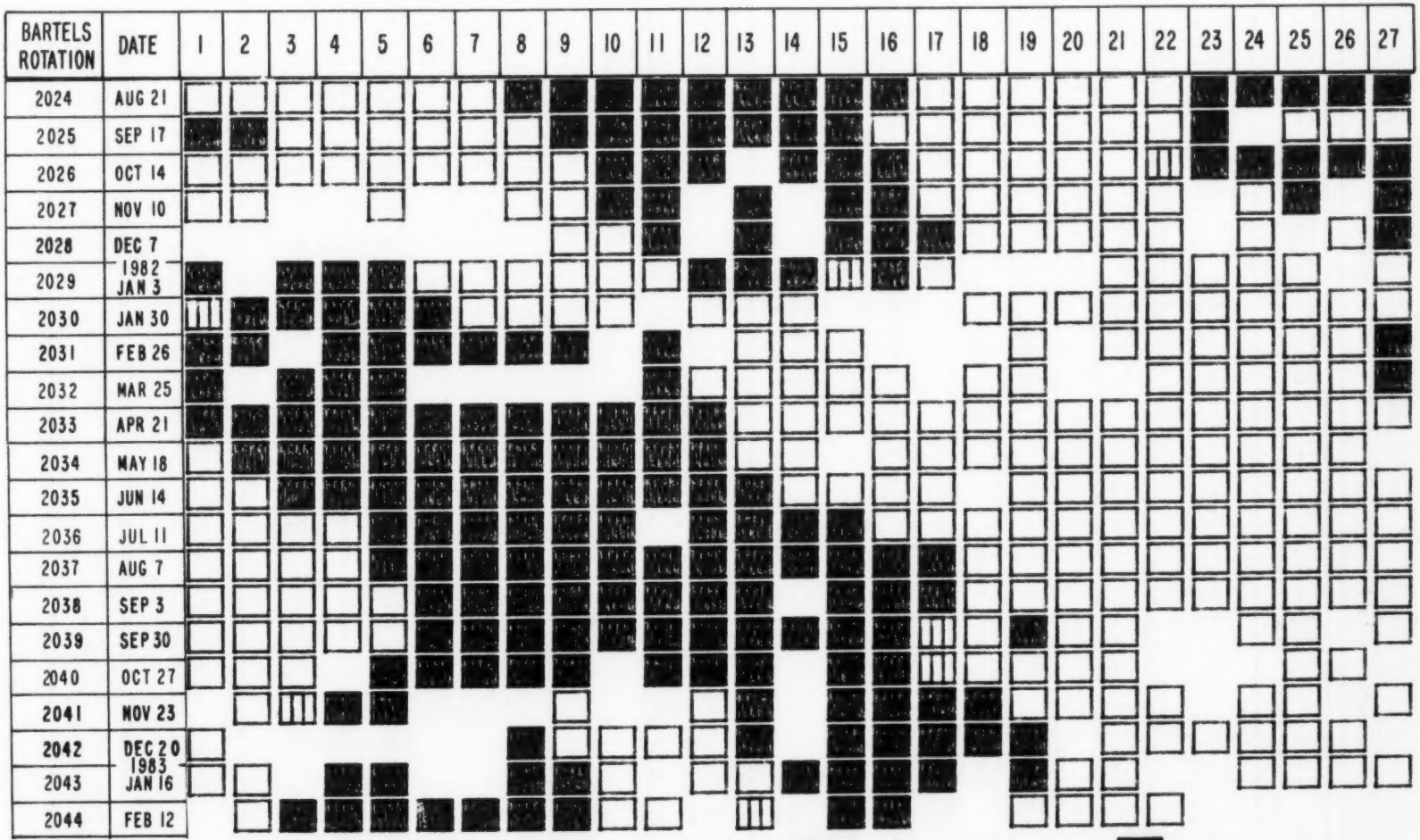
= definitely towards the sun = definitely away from the sun

T = towards the sun A = away from the sun * = effect doubtful or not discernible - = missing data

The table shows daily inferences of the polarity of the interplanetary magnetic field. The first half of the day is based principally on magnetograms produced by the magnetometer at the Vostok Antarctic Station of the USSR. The magnetometer of the U.S. Air Weather Service now operated at Thule by the Danish Meteorological Institute is used for the second half of the day. The Thule magnetometer ceased operating in August 1981.

based principally on magnetograms produced by the magnetometer at the Vostok Antarctic Station of the USSR. The magnetometer of the U.S. Air Weather Service now operated at Thule by the Danish Meteorological Institute is used for the second half of the day. The Thule magnetometer ceased operating in August 1981.

STANFORD MEAN SOLAR MAGNETIC FIELD



POLARITY OF THE MEAN SOLAR MAGNETIC FIELD: □ = FIELD >2μT, ▥ = -2μT ≤FIELD ≤2μT, ■ = FIELD <-2μT

No box visible indicates no data available for that day.

NOTE: Data are taken daily at 2000 UT. Dates given are not Bartels Rotation dates. These earlier dates correspond to the occurrence of phenomena on the Sun that affect the Earth during the given Bartels Rotation.

STANFORD MEAN SOLAR MAGNETIC FIELD (MICROTESLA)

1982 1983

day	March	April	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.
01	-19	.	-5	.	.	49	89	22	-31	42	-9	-91
02	-9	.	-5	33	85	19	102	53	-15	.	.	.
03	-20	.	23	38	75	19	84	37	-18	.	-89	-9
04	-39	-17	43	54	71	52	66	18	-38	10	-81	15
05	-44	3	48	80	53	85	68	-5	.	-42	-73	45
06	-21	38	15	82	35	105	55	-41	-53	.	-22	.
07	.	60	41	77	29	81	30	-54	-61	-90	-2	.
08	-2	57	69	80	42	63	-27	-75	-58	-54	.	54
09	.	24	74	68	54	59	-55	-90	.	-29	53	84
10	16	.	70	54	63	33	-74	-93	-54	-20	46	93
11	34	61	65	50	87	-30	-93	-95	-21	26	37	69
12	35	46	79	58	79	-87	-124	-100	1	29	53	.
13	.	.	87	.	43	-118	-125	-70	19	43	84	16
14	.	.	77	78	9	-121	-120	-35	34	28	84	-19
15	.	86	72	51	-39	-144	-112	-7	37	.	.	-22
16	21	93	51	-13	-112	-149	.	-1	52	8	39	-104
17	.	71	38	-51	-164	-141	-49	4	.	57	10	-102
18	4	46	27	-93	-193	-124	-28	-43	.	.	.	-57
19	20	28	-15	-184	-201	-93	-14	55	.	64	-37	-37
20	31	-5	-57	-237	-189	-59	12	33	22	32	-119	-7
21	25	-38	-58	-225	.	-32	40	.	33	.	.	24
22	22	-73	-93	-170	-128	-16	44	.	.	.	.	27
23	14	-113	-132	-123	-71	-12	25	17	.	.	-25	.
24	-2	-107	-158	-69	-29	5	10	45	12	.	-3	-1
25	-26	-93	-151	-56	-5	32	8	.	-1	.	31	.
26	.	-104	-118	-40	12	39	18	54	-31	.	.	-49
27	-51	-117	-26	11	28	47	36	55	-53	-31	31	-56
28	-56	-122	-26	37	38	46	72	34	.	6	3	.
29	-53	-77	-10	46	48	25	57	20	.	42	-14	
30	.	-26	19	59	61	39	52	.	.	59	-51	
31	.		46		53	64		-11		35	-91	

DOT SYMBOL INDICATES NO DATA AVAILABLE FOR THE DAY.

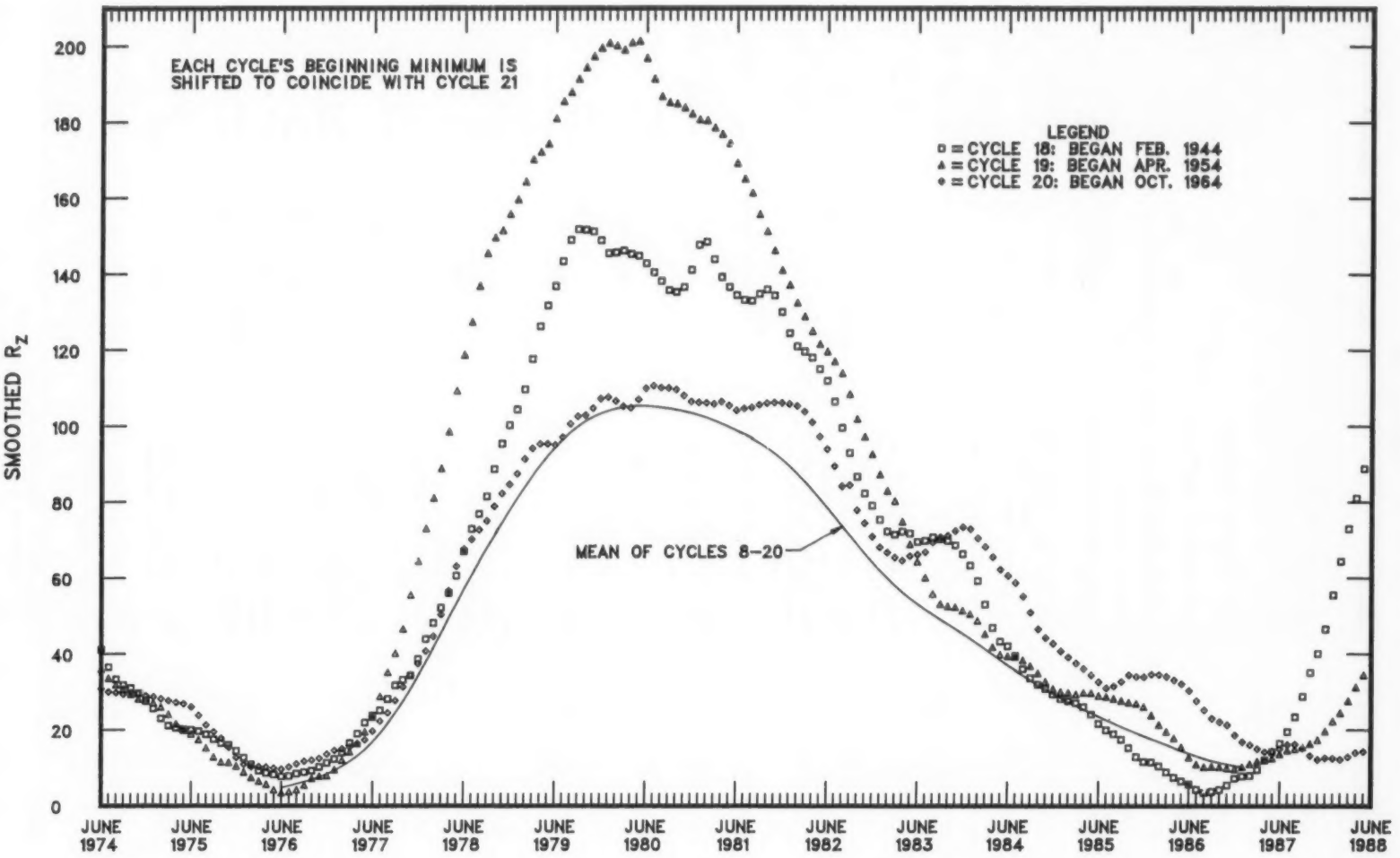
BOULDER GEOMAGNETIC SUBSTORM LOG

February 1983

DATE	ONSET TIME	DIR	COMMENTS
02/01			Field intermittently unsettled.
	0520	East	Weak substorm.
	0930	West	
02/02			Field slightly unsettled.
02/03			Field slightly unsettled.
02/04	1614	SSC	Magstorm followed.
02/05			Magstorm continued.
02/06			Magstorm continued through 1800 UT.
02/07			Magstorm conditions 0300-1730 UT. Unsettled balance of day.
02/08			Field unsettled through 1530 UT.
	0240	East	
	0805	West	
02/09			Field intermittently unsettled.
	0920	Center	
	1340		Localized substorm Anchorage to College.
	2105		Weak positive impulse H-component mid-latitude stations.
02/10			Field unsettled through 1630 UT.
	0755	West	Weak substorm.
	0955		Localized substorm at College.
	1055		Localized substorm Anchorage to College.
02/11			Field unsettled after 0730 UT.
	1010	West	Weak substorm.
	1045	West	
	1205	West	
02/12			Magstorm conditions 1000-1600 UT. Unsettled balance of day.
	0720	Center	
02/13			Field intermittently active.
	0705	Center	
	1054	West	Several injections.
	1330		Localized substorm at College.
	1440		Localized substorm Anchorage to College.
02/14			Field unsettled all day.
	0715	West	Moderate substorm.
	1125		Localized substorm Anchorage to College.
	1520	West	
02/15			Field active 1000-1600 UT and unsettled balance of day.
	0820	West	
	1040	West	Multiple injections with recovery near 1400 UT.
	1410	West	
02/16			Field active 0800-1800 UT and unsettled balance of day.
02/16	0325	East	
	0645	West	
	0820	West	Multiple injections with recovery near 1100 UT.
	1120		Localized substorm Anchorage to Ft. Yukon; multiple injection with recovery near 1415 UT.
	1455	West	Several injections with recovery near 1730 UT.
02/17			Field intermittently unsettled.
	0535		Weak substorm.
	1100	West	Several injections with recovery near 1300 UT.
	1425		Localized substorm vicinity College.
02/18			Field intermittently unsettled.
	1125		Localized substorm College to Ft. Yukon.
02/19			Field intermittently unsettled.
	0720	Center	
02/20			Field active after 1100 UT.
	0700	East	Weak substorm.
	1105	West	Multiple injections with recovery near 1700 UT.
02/21			Field active all day.
	0440	East	Weak substorm.
	0940		Localized substorm Anchorage to Ft. Yukon; several injections.
	1415	West	
	1510		Moderate injection into existing substorm.
	1800	West	
02/22			Field intermittently unsettled.
	0205	East	
02/23			Field intermittently unsettled.
	0330		Weak substorm.
	0820		Weak substorm.
	1550		Weak substorm.
02/24			Field intermittently unsettled.
	1120		Localized at College.
	1200	West	
02/25			Field intermittently unsettled.
	0850	East	Weak substorm.
	0930	West	Weak substorm.
	1450		Slow onset.
02/26			Field slightly unsettled.
	0900	West	Weak substorm.
02/27			Field intermittently unsettled.
	0825		Weak substorm; onset at Ft. Simpson, slow expansion eastward.
	1005	West	
02/28			Field intermittently unsettled.
	2145	SSC	

DOT SYMBOL INDICATES NO DATA AVAILABLE FOR THE DAY.

SUPERPOSITION OF CYCLES 18, 19, AND 20



SGD 463 Part I (Prompt)

JANUARY 1983 DATA

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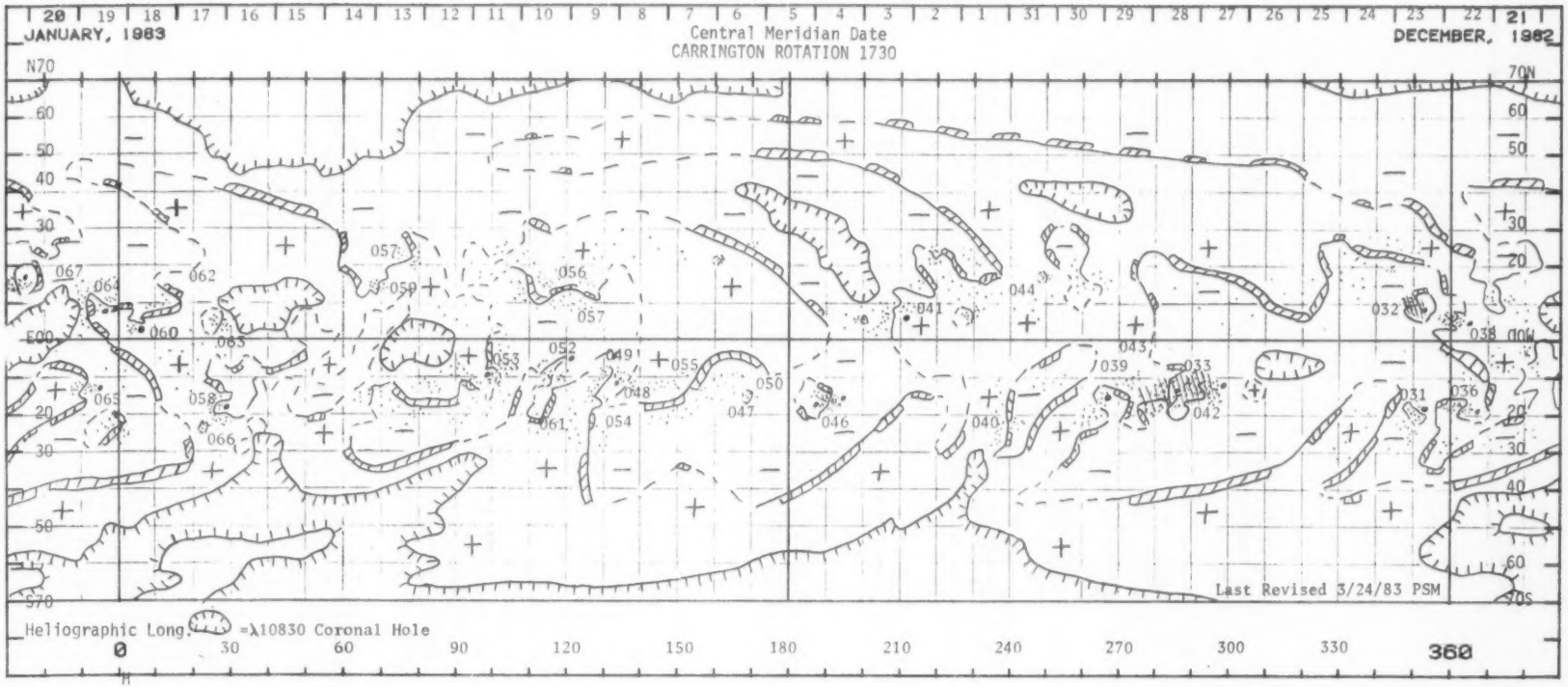
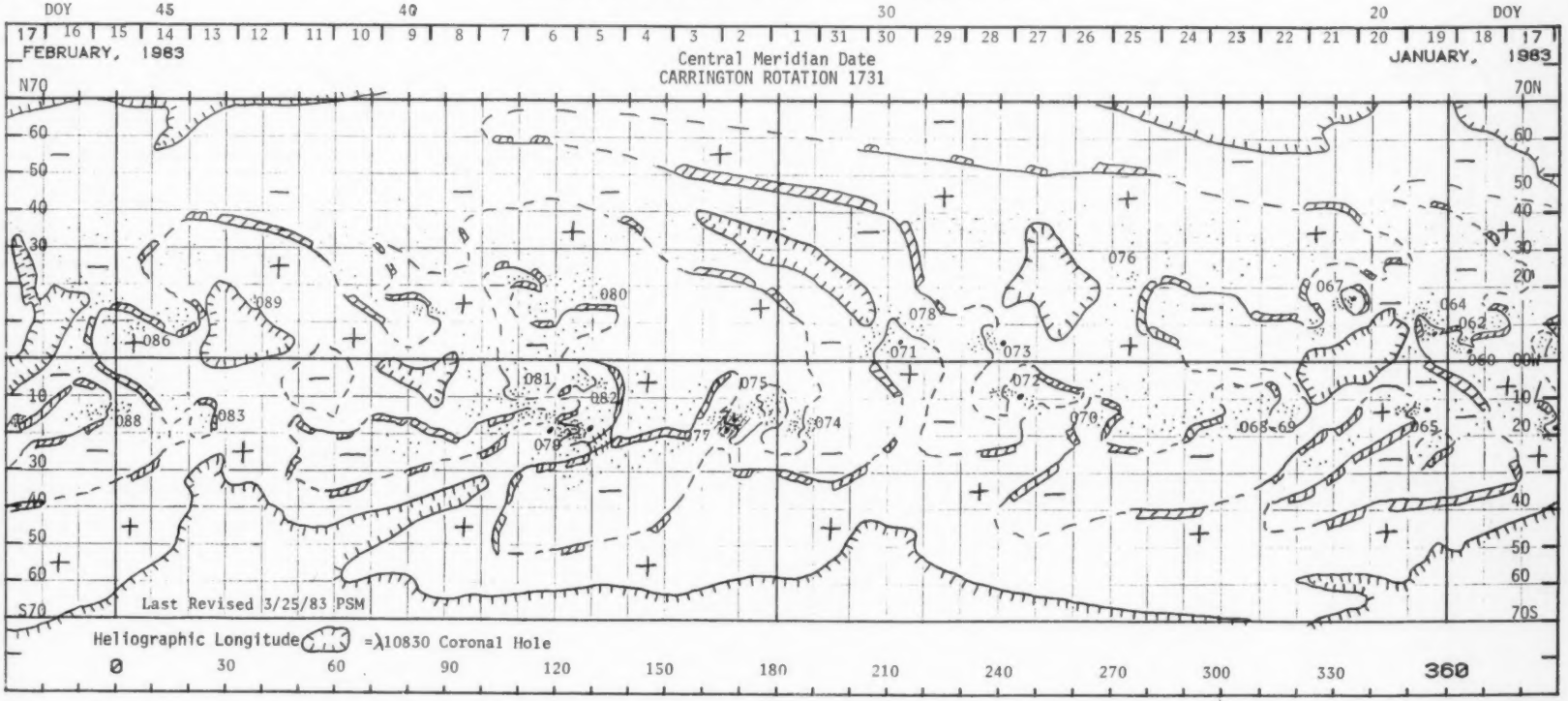
Hα SYNOPTIC CHART

CARRINGTON ROTATION 1730 (PRELIMINARY)



Hα SYNOPTIC CHART

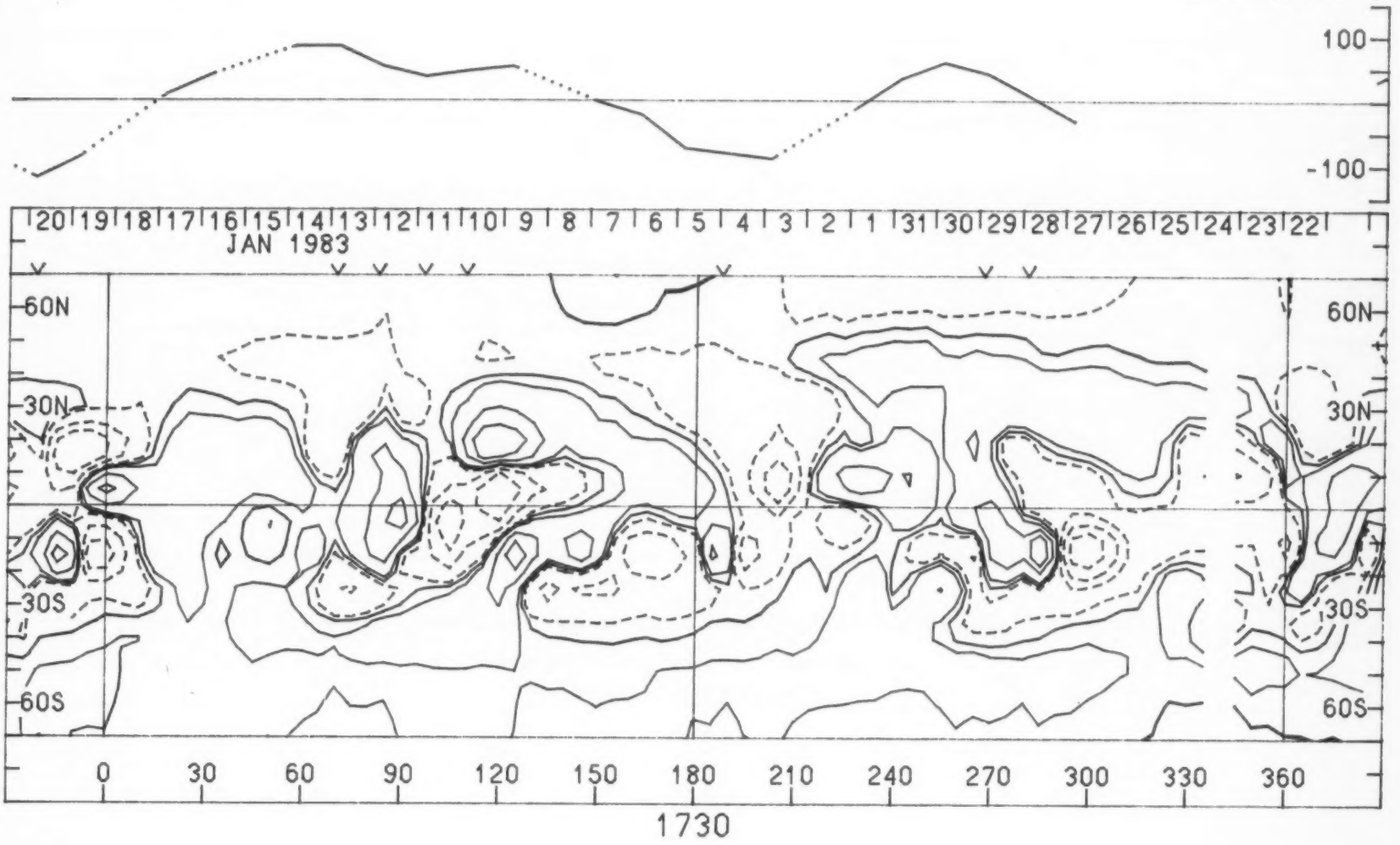
CARRINGTON ROTATION 1731 (PRELIMINARY)



SOLAR MAGNETIC FIELD SYNOPTIC CHART
CARRINGTON ROTATION 1730

Stanford Solar Observatory

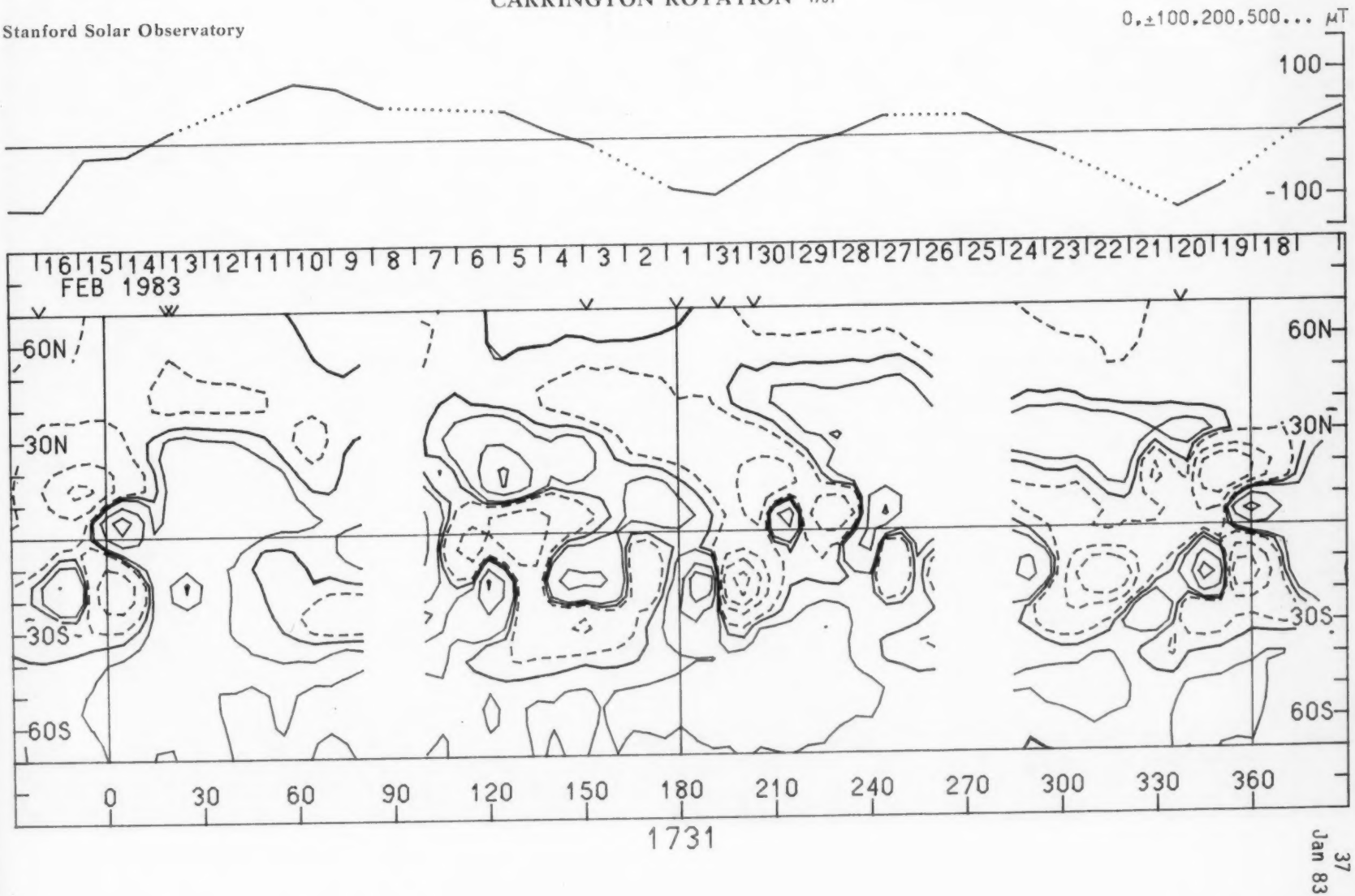
0,±100,200,500... μT



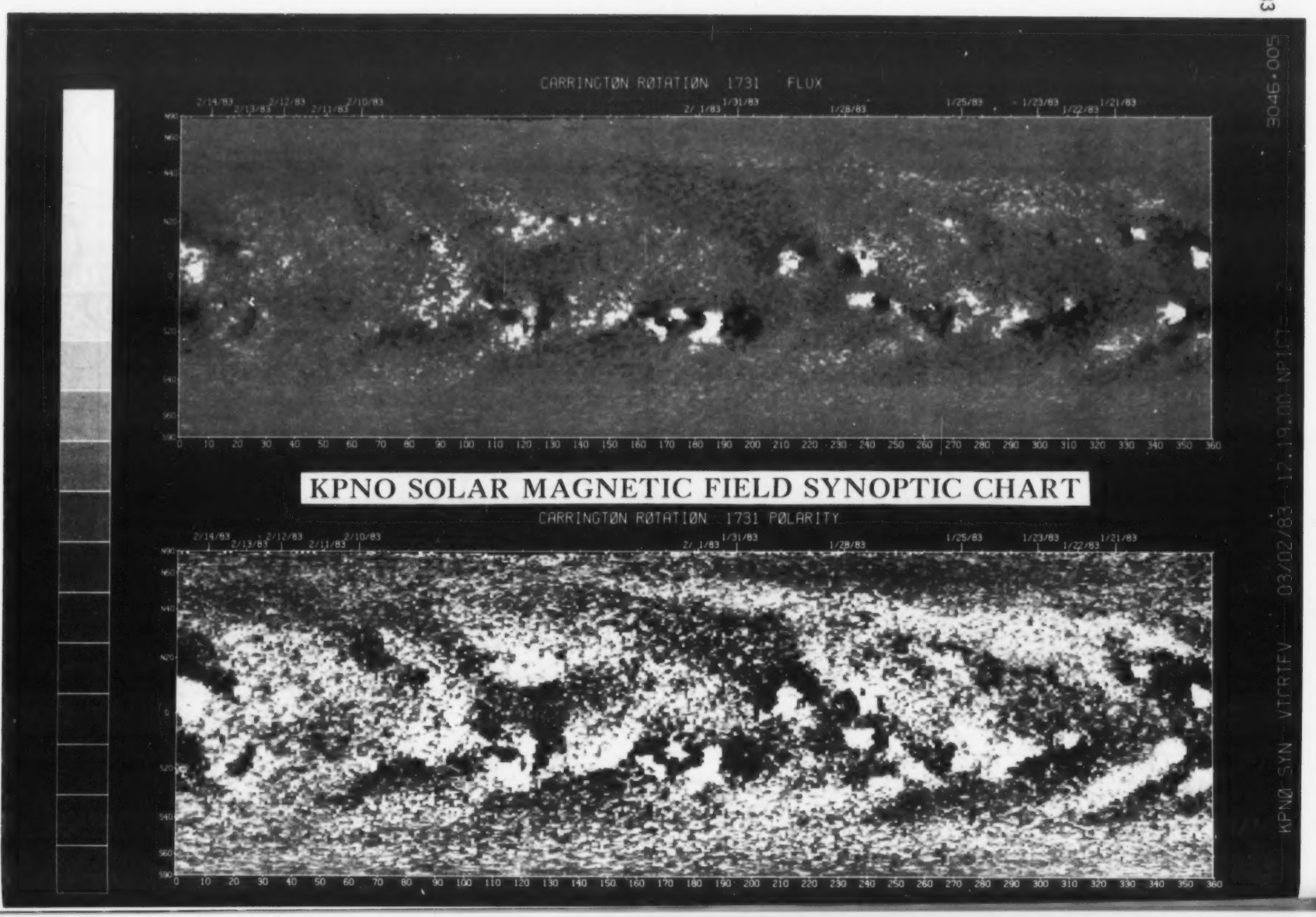
SOLAR MAGNETIC FIELD SYNOPTIC CHART

CARRINGTON ROTATION 1731

Stanford Solar Observatory



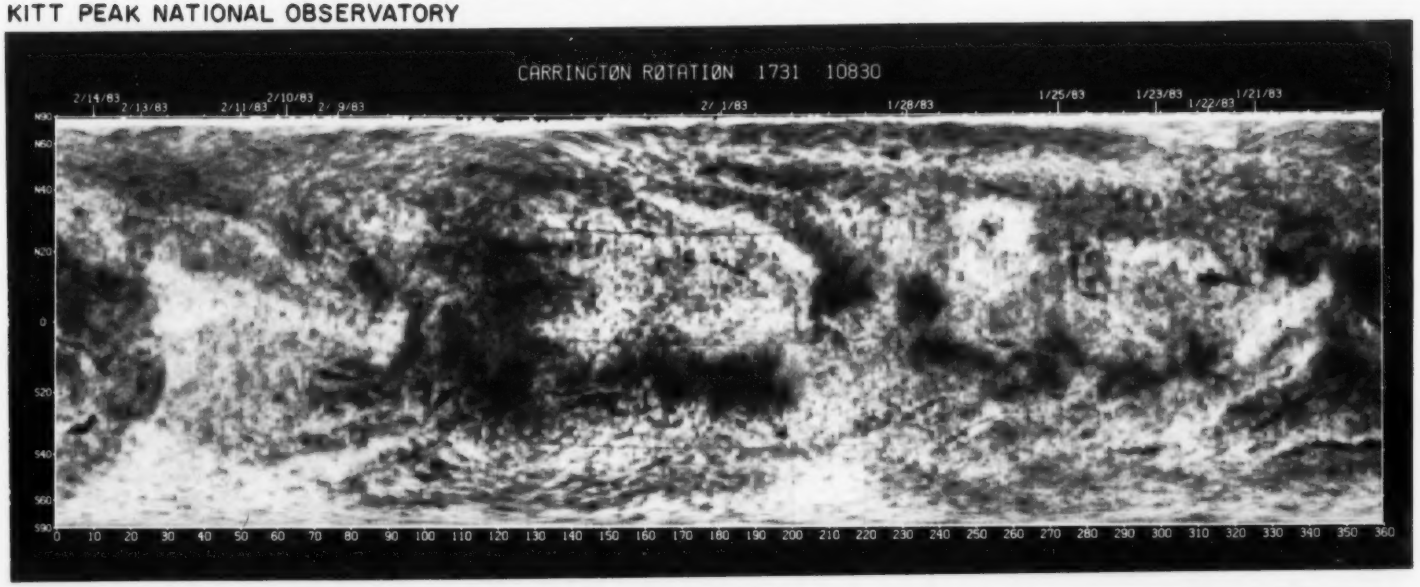
37
Jan 83


CARRINGTØN RØTATIØN 1731 FLUX
2/14/83 2/13/83 2/12/83 2/11/83 2/10/83 2/ 1/83 1/31/83 1/28/83 1/25/83 1/23/83 1/22/83 1/21/83
0 10 20 30 40 50 60 70 80 90 100 110 120 130 140 150 160 170 180 190 200 210 220 230 240 250 260 270 280 290 300 310 320 330 340 350 360
KPNO SOLAR MAGNETIC FIELD SYNOPTIC CHART
CARRINGTØN RØTATIØN 1731 PØLARITY
2/14/83 2/13/83 2/12/83 2/11/83 2/10/83 2/ 1/83 1/31/83 1/28/83 1/25/83 1/23/83 1/22/83 1/21/83
0 10 20 30 40 50 60 70 80 90 100 110 120 130 140 150 160 170 180 190 200 210 220 230 240 250 260 270 280 290 300 310 320 330 340 350 360
KPNØ SYN VIEWIEV 03/02/83 12:19:00 NF1C5 2 500-9045E

HELIUM 10830Å SYNOPTIC MAPS

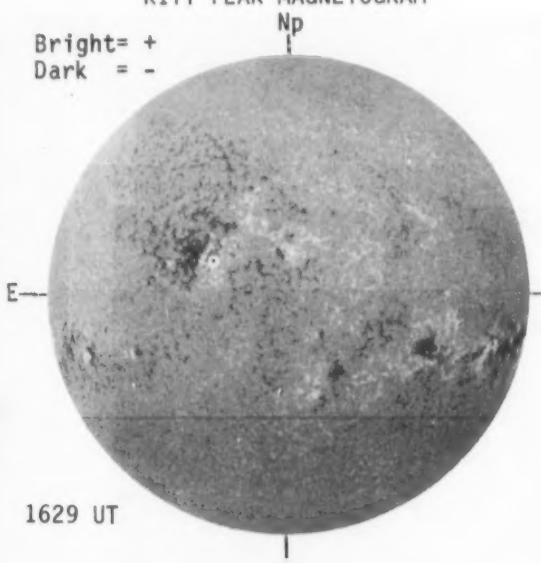
CARRINGTON ROTATION 1731

KITT PEAK NATIONAL OBSERVATORY

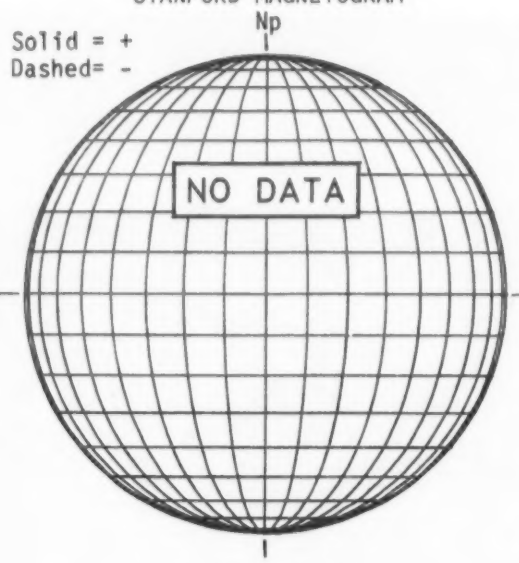


J A N U A R Y 01, 1 9 8 3 (P= 2.30, B_0=-3.00, L_0= 239.33)

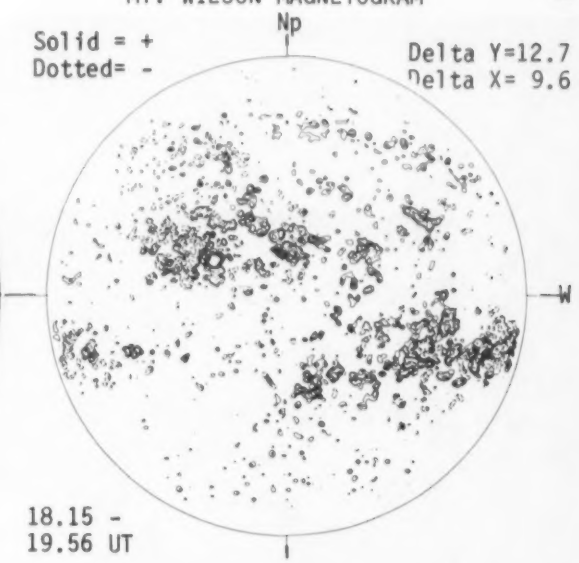
KITT PEAK MAGNETOGRAM



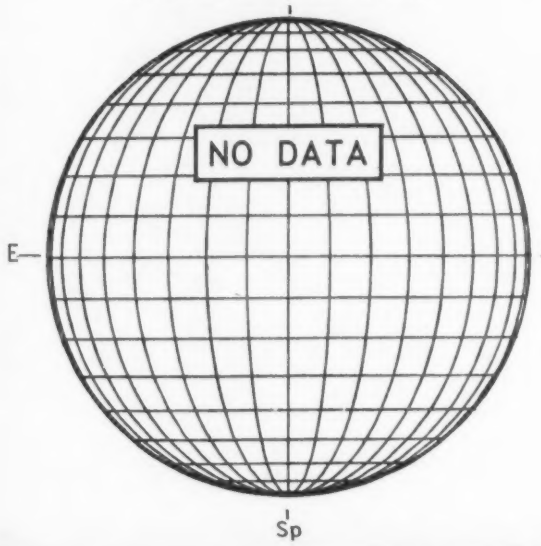
STANFORD MAGNETOGRAM



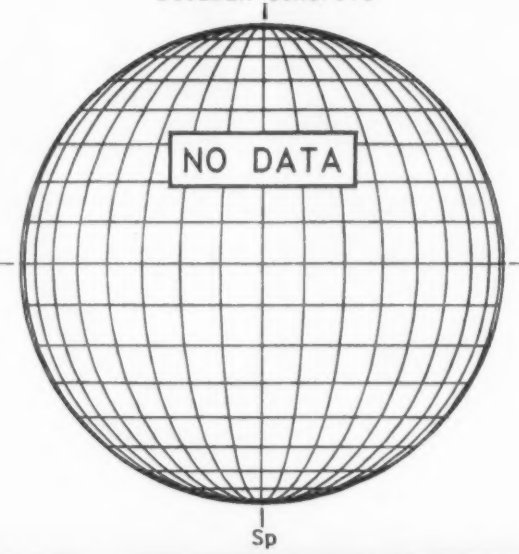
MT. WILSON MAGNETOGRAM



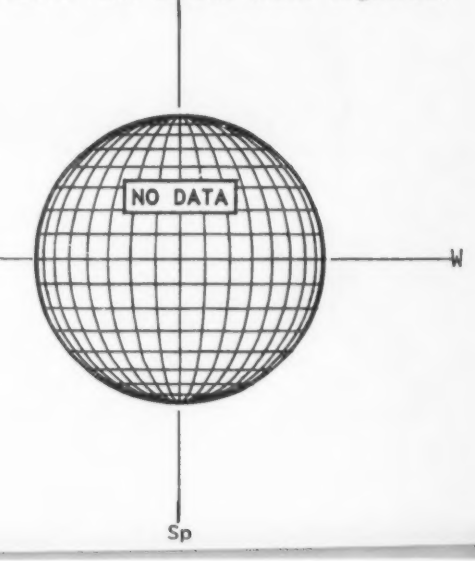
SACRAMENTO PEAK H-ALPHA



BOULDER SUNSPOTS



SACRAMENTO PEAK CORONA (5303 Angstrom)



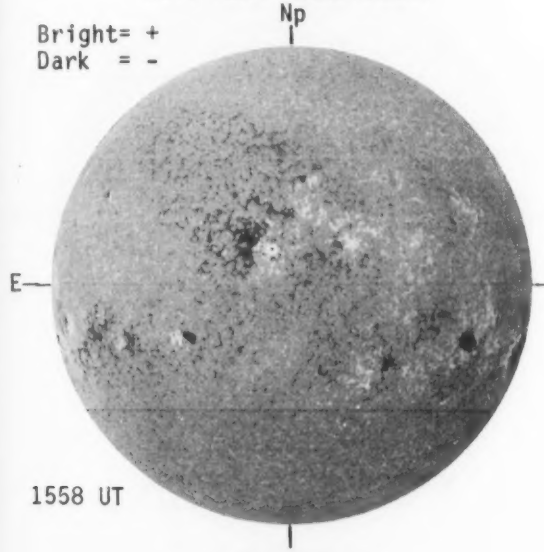
J A N U A R Y 02, 1 9 8 3 (P= 1.82, B_0=-3.11, L_0= 226.15)

Sp Sp Sp

J A N U A R Y 02, 1 9 8 3 (P= 1.82, B_o=-3.11, L_o= 226.15)

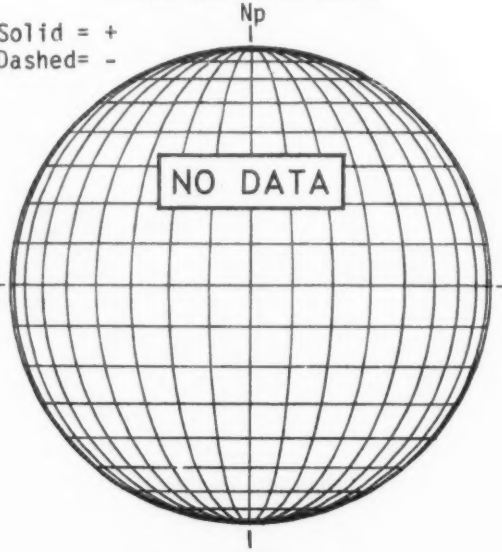
KITT PEAK MAGNETOGRAM

Bright= +
Dark = -



STANFORD MAGNETOGRAM

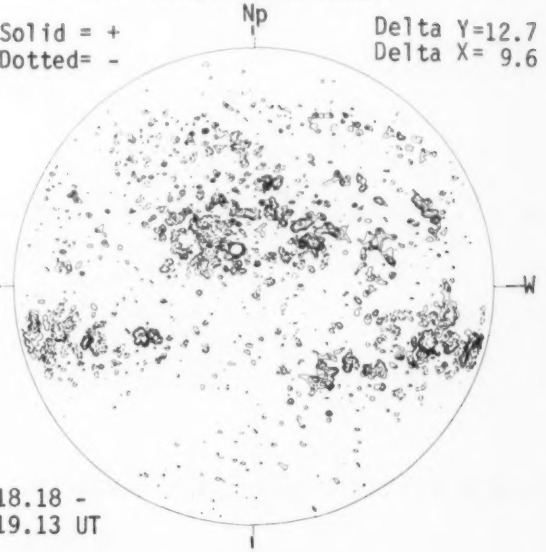
Solid = +
Dashed= -



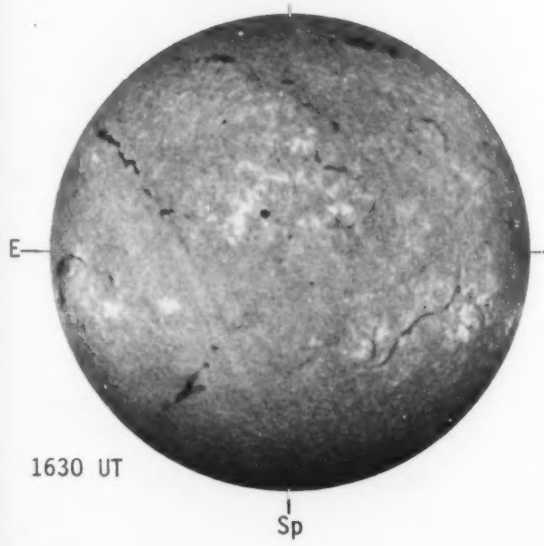
MT. WILSON MAGNETOGRAM

Solid = +
Dotted= -

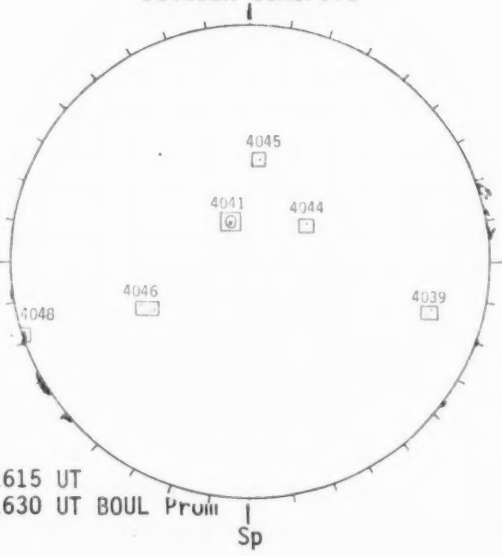
Delta Y=12.7
Delta X= 9.6



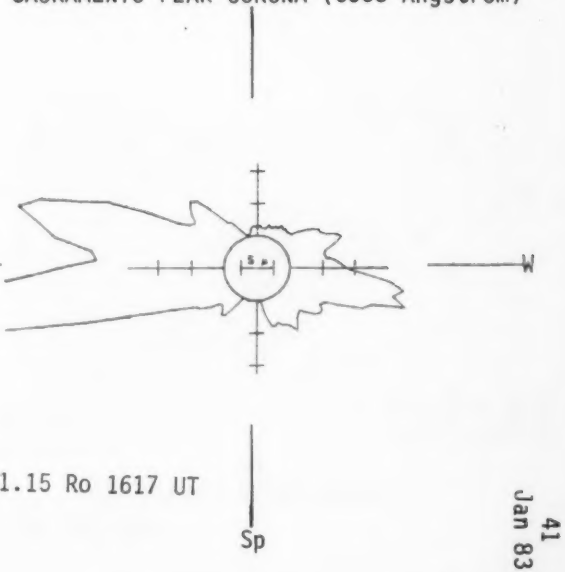
BOULDER H-ALPHA



BOULDER SUNSPOTS



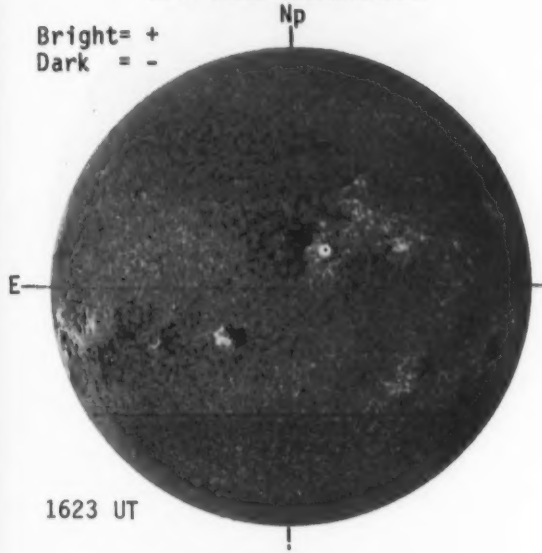
SACRAMENTO PEAK CORONA (5303 Angstrom)



J A N U A R Y 03, 1 9 8 3 (P= 1.33, B_0=-3.23, L_0= 212.98)

KITT PEAK MAGNETOGRAM

Bright= +
Dark = -



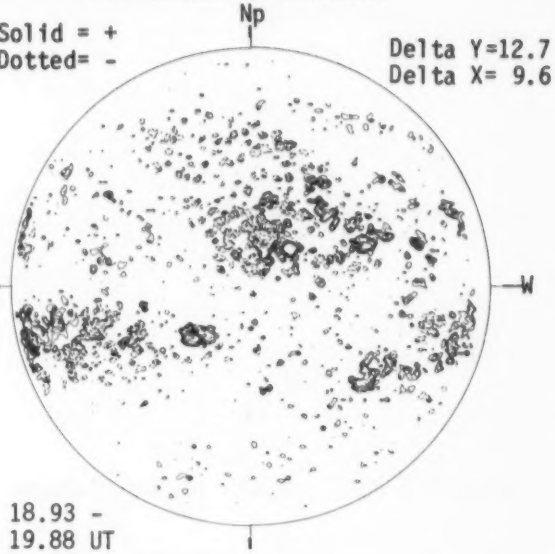
STANFORD MAGNETOGRAM

Solid = +
Dashed= -

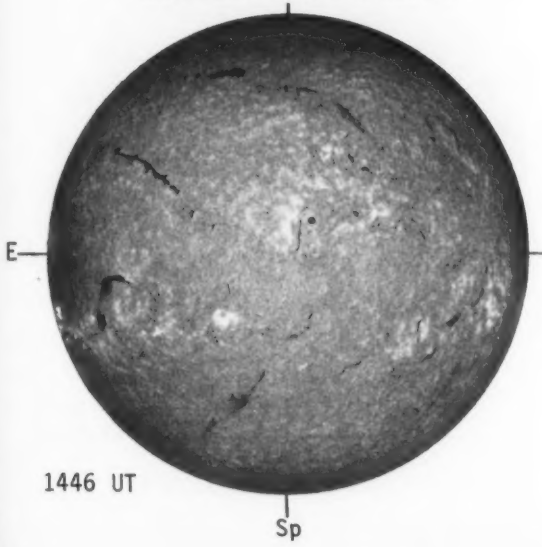
MT. WILSON MAGNETOGRAM

Solid = +
Dotted= -

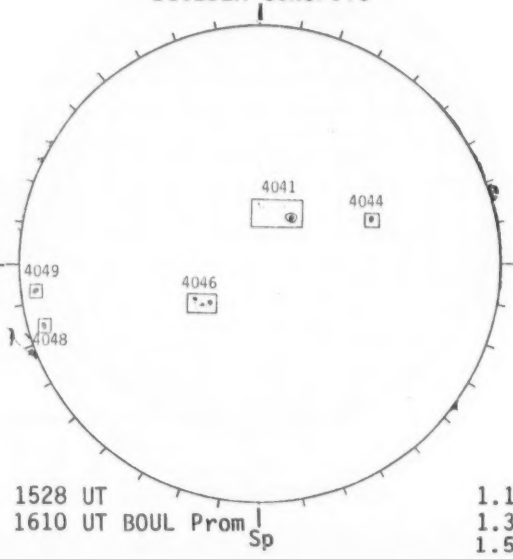
Delta Y=12.7
Delta X= 9.6



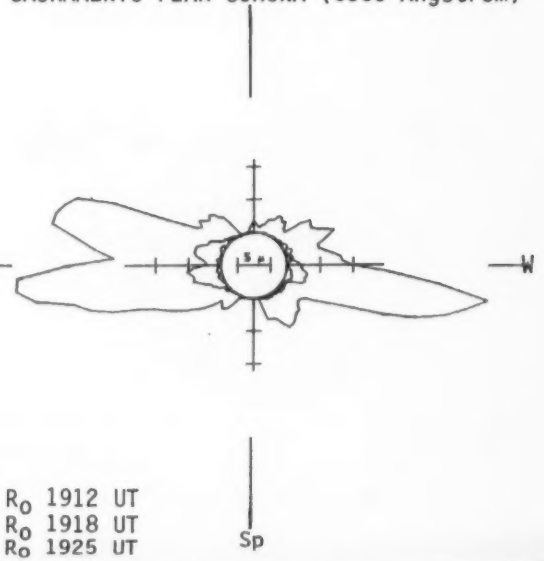
SACRAMENTO PEAK H-ALPHA



BOULDER SUNSPOTS



SACRAMENTO PEAK CORONA (5303 Angstrom)



J A N U A R Y 04, 1 9 8 3 (P= 0.85, B_0=-3.34, L_0= 199.81)

Sp

1610 UT BOUL Prom

Sp

1.35 R_o 1918 UT
1.55 R_o 1925 UT

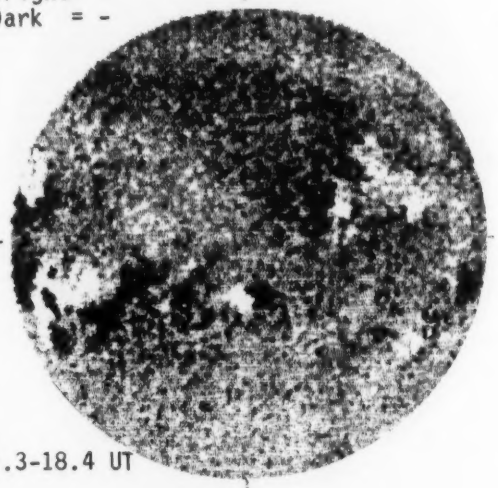
Sp

J A N U A R Y 04, 1 9 8 3 (P= 0.85, B_o=-3.34, L_o= 199.81)

MT. WILSON MAGNETOGRAM

Np

Bright= +
Dark = -



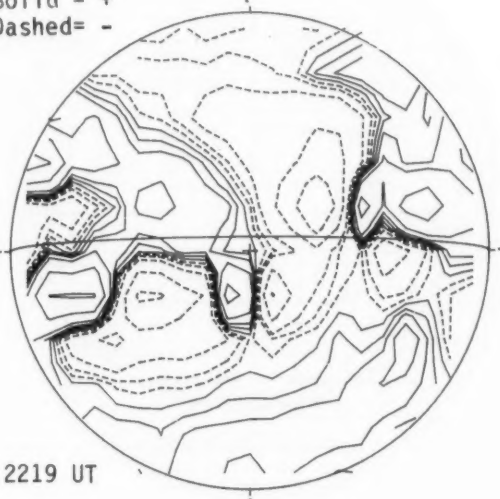
E

17.3-18.4 UT

STANFORD MAGNETOGRAM

Np

Solid = +
Dashed= -



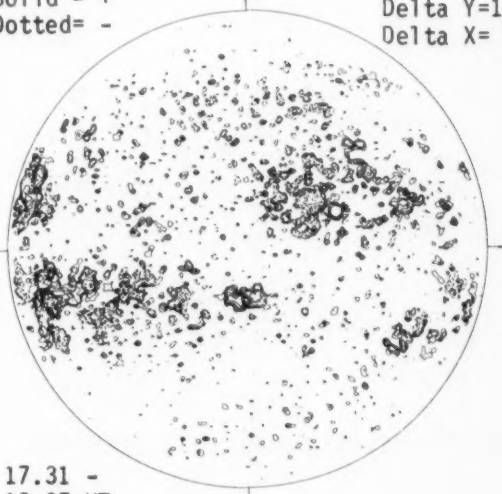
2219 UT

MT. WILSON MAGNETOGRAM

Np

Solid = +
Dotted= -

Delta Y=12.7
Delta X= 9.6



W

17.31 -
18.37 UT

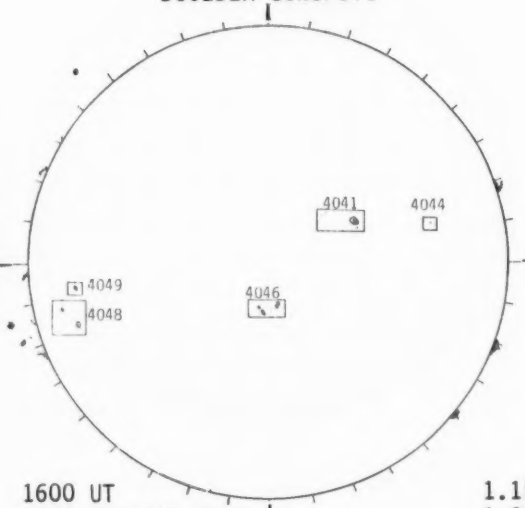
SACRAMENTO PEAK H-ALPHA

E

1748 UT

Sp

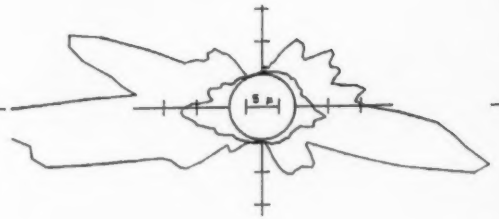
BOULDER SUNSPOTS



1600 UT
2035 UT BOUL Prom

Sp

SACRAMENTO PEAK CORONA (5303 Angstrom)



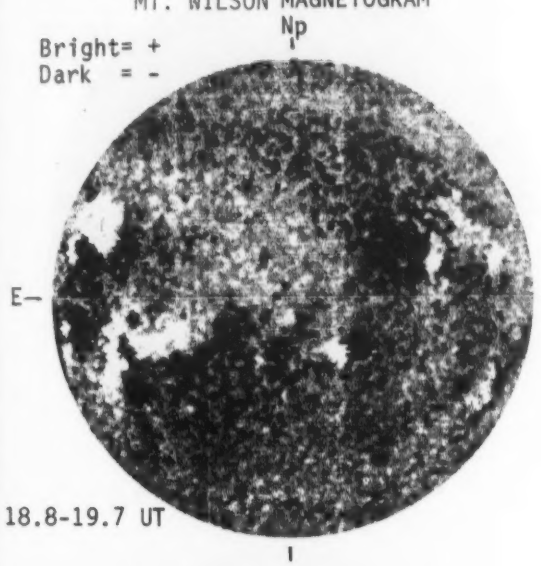
W

1.15 R_o 1841 UT
1.35 R_o 1847 UT

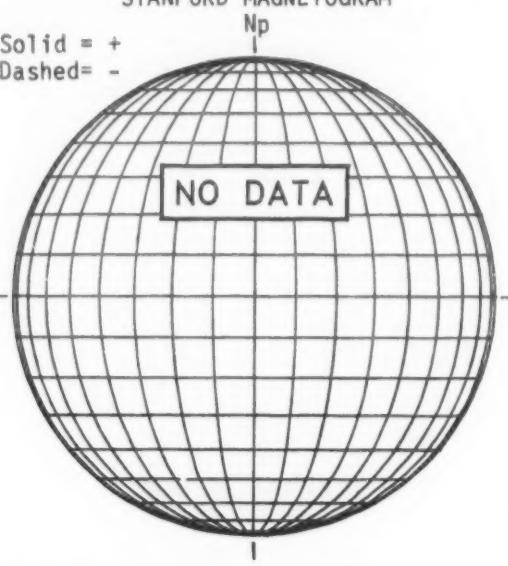
Sp

J A N U A R Y 05, 1 9 8 3 (P= 0.36, B_0=-3.46, L_0= 186.64)

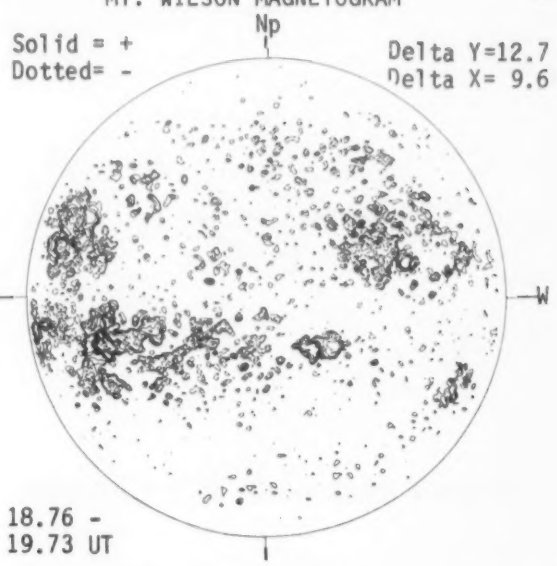
MT. WILSON MAGNETOGRAM



STANFORD MAGNETOGRAM



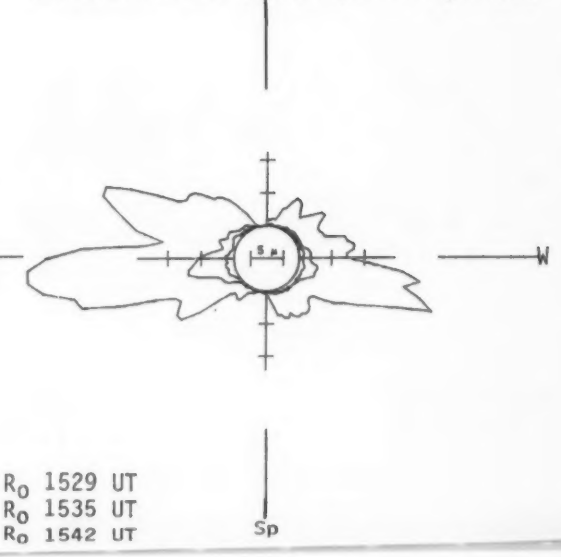
MT. WILSON MAGNETOGRAM



SACRAMENTO PEAK H-ALPHA

BOULDER SUNSPOTS

SACRAMENTO PEAK CORONA (5303 Angstrom)



J A N U A R Y 06, 1 9 8 3 (P= 0.12, B_0=-3.57, L_0= 173.47)

Sp

Sp

1.15 R_o 1529 UT
1.35 R_o 1535 UT
1.55 R_o 1542 UT

Sp

J A N U A R Y 06, 1 9 8 3 (P=- 0.12, B_o=-3.57, L_o= 173.47)

MT. WILSON MAGNETOGRAM

Np
Bright= +
Dark = -
E—
17.8-18.9 UT
Sp

STANFORD MAGNETOGRAM

Np
Solid = +
Dashed= -
NO DATA
Sp

MT. WILSON MAGNETOGRAM

Np
Solid = +
Dotted= -
Delta Y=12.7
Delta X= 9.6
—W
17.81 -
18.88 UT
Sp

SACRAMENTO PEAK H-ALPHA

E—
1456 UT
Sp

BOULDER SUNSPOTS

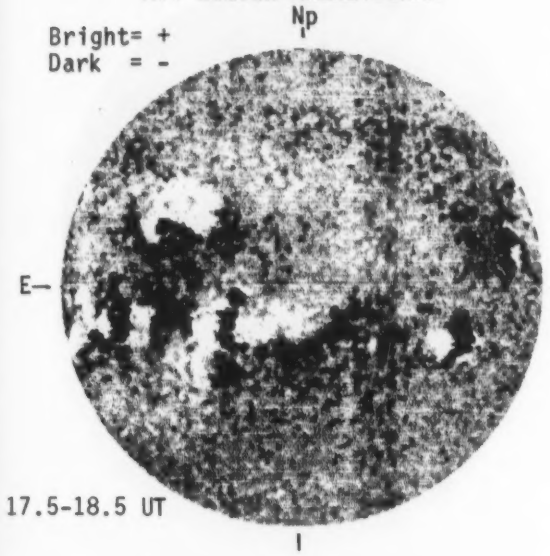
4041
4049
4053
4052
4048
4046
4054
2015 UT
2010 UT BOUL Prom
Sp

SACRAMENTO PEAK CORONA (5303 Angstrom)

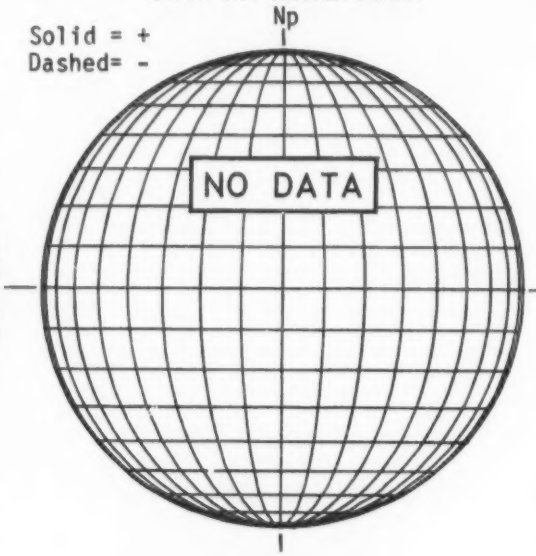
E
5 R
—W
1.15 R_o 1926 UT
1.35 R_o 1932 UT
1.55 R_o 1939 UT
Sp

J A N U A R Y 07, 1 9 8 3 (P=- 0.61, B_o=-3.68, L_o= 160.31)

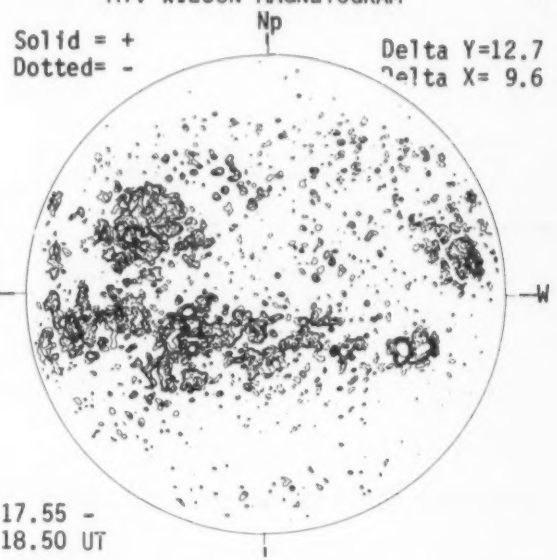
MT. WILSON MAGNETOGRAM



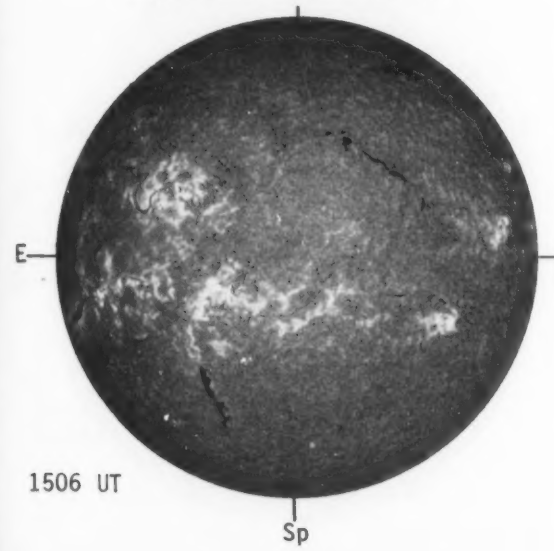
STANFORD MAGNETOGRAM



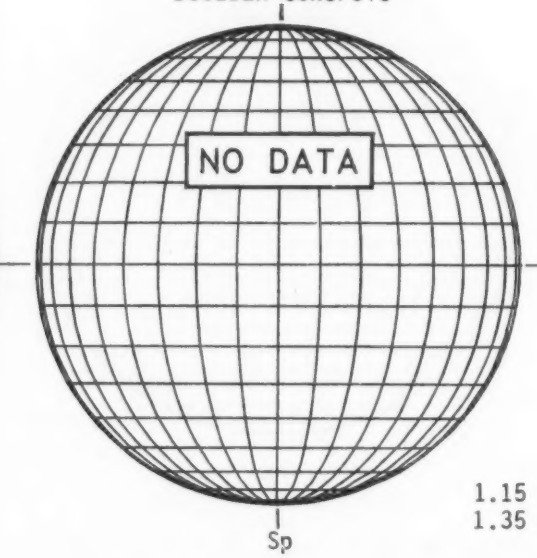
MT. WILSON MAGNETOGRAM



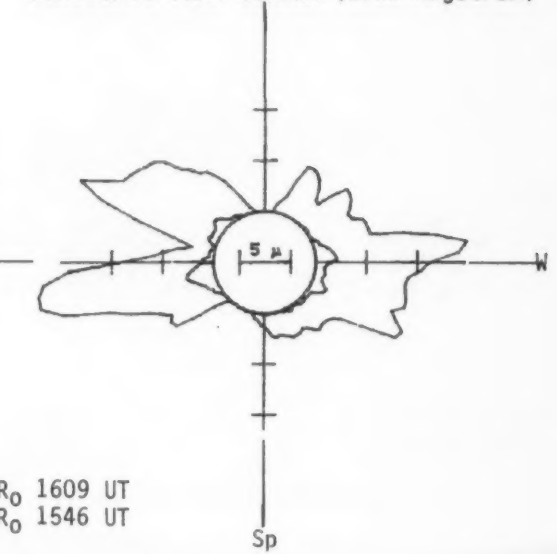
SACRAMENTO PEAK H-ALPHA



BOULDER SUNSPOTS



SACRAMENTO PEAK CORONA (5303 Angstrom)



Sp

Sp

1.35 R_o 1546 UT

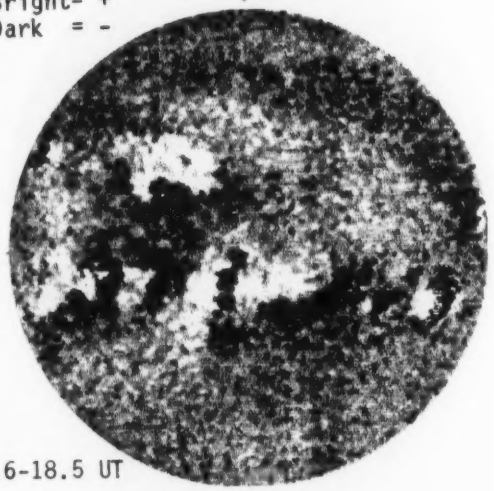
Sp

J A N U A R Y 08, 1 9 8 3 (P=- 1.09, B_o=-3.79, L_o= 147.14)

MT. WILSON MAGNETOGRAM

Np

Bright= +
Dark = -



E-

17.6-18.5 UT

STANFORD MAGNETOGRAM

Np

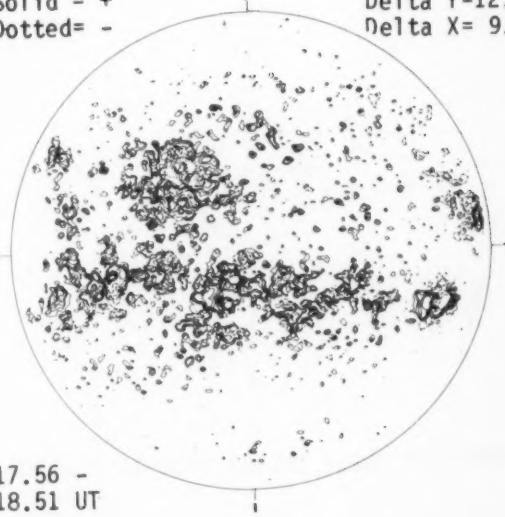
Solid = +
Dashed= -

MT. WILSON MAGNETOGRAM

Np

Solid = +
Dotted= -

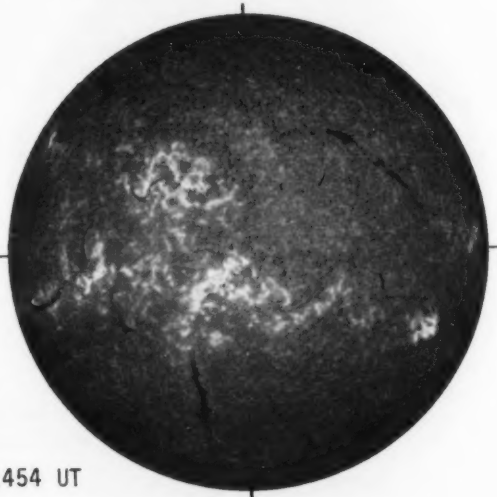
Delta Y=12.7
Delta X= 9.6



-W

17.56 -
18.51 UT

SACRAMENTO PEAK H-ALPHA



E-

1454 UT

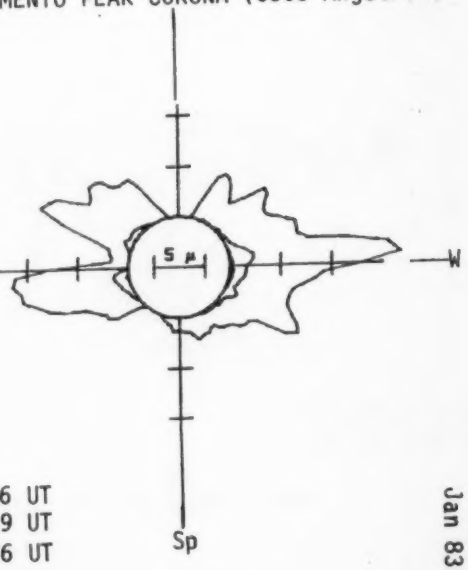
Sp

BOULDER SUNSPOTS

Sp

1.15 R_o 1546 UT
1.35 R_o 1529 UT
1.55 R_o 1536 UT

SACRAMENTO PEAK CORONA (5303 Angstrom)



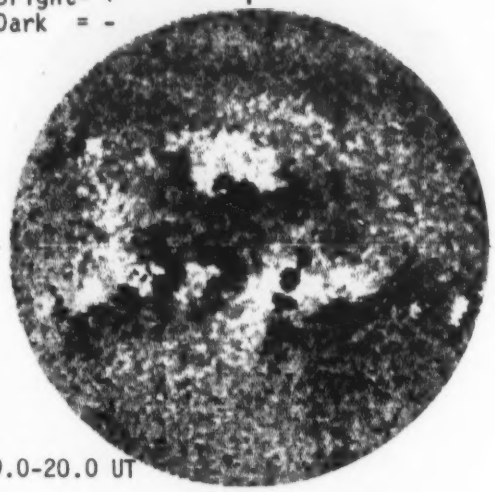
-W

Sp

J A N U A R Y 09, 1 9 8 3 (P=- 1.57, B_0=-3.90, L_0= 133.97)

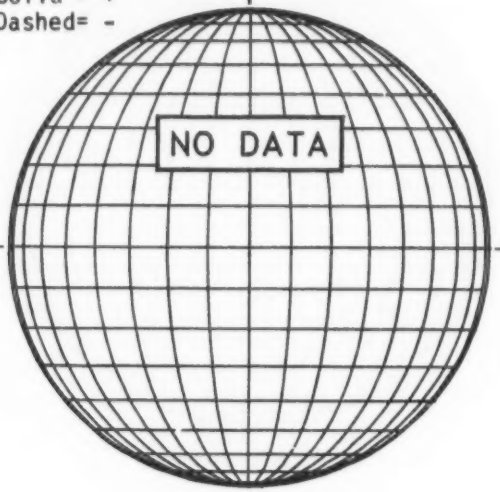
MT. WILSON MAGNETOGRAM

Bright= +
Dark = -



STANFORD MAGNETOGRAM

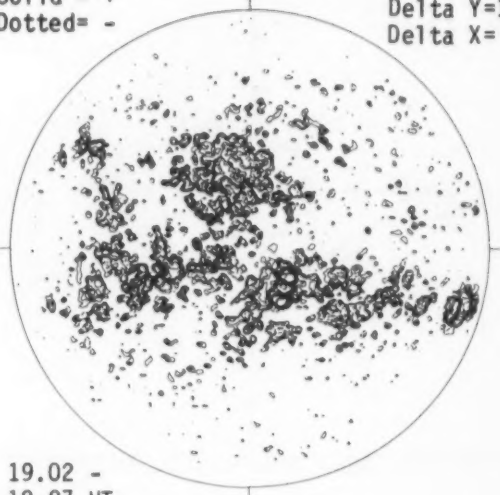
Solid = +
Dashed= -



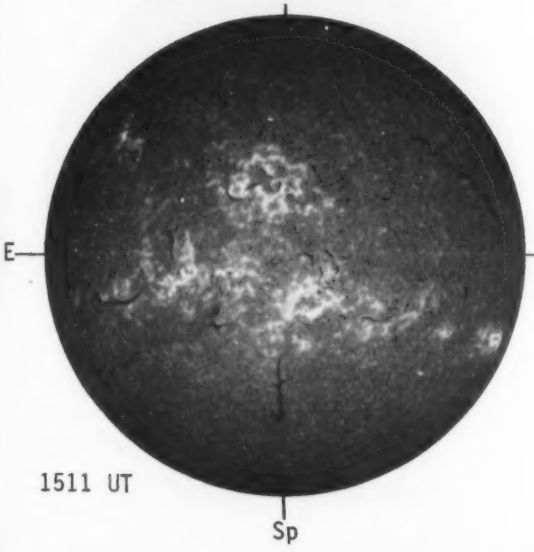
MT. WILSON MAGNETOGRAM

Solid = +
Dotted= -

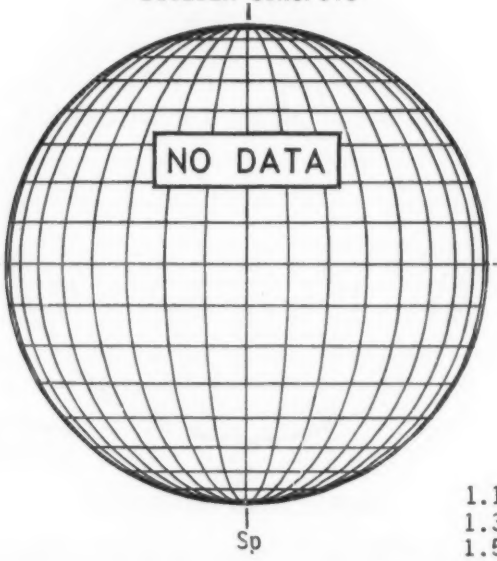
Delta Y=12.7
Delta X= 9.6



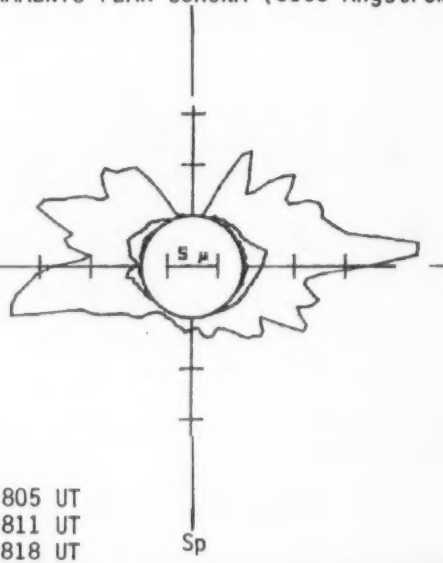
SACRAMENTO PEAK H-ALPHA



BOULDER SUNSPOTS



SACRAMENTO PEAK CORONA (5303 Angstrom)



1.15 R_0 1805 UT
1.35 R_0 1811 UT
1.55 R_0 1818 UT

Sp

Sp

1.35 R_o 1811 UT
1.55 R_o 1818 UT

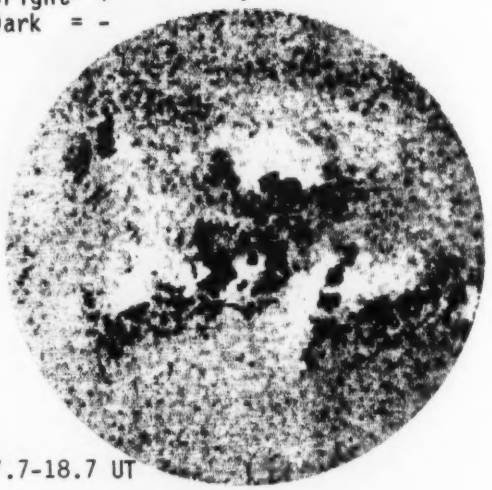
Sp

J A N U A R Y 10, 1 9 8 3 (P=- 2.05, B_o=-4.01, L_o= 120.80)

MT. WILSON MAGNETOGRAM

Np

Bright= +
Dark = -



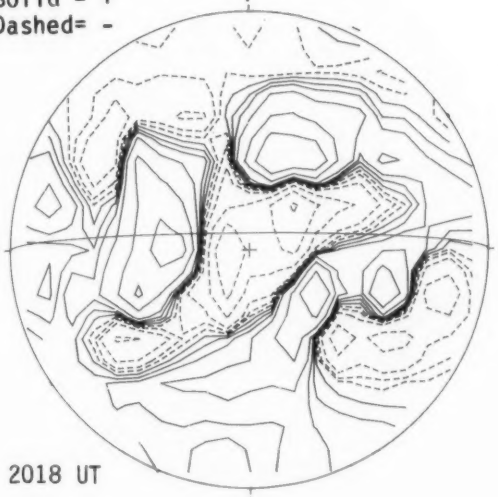
E—

17.7-18.7 UT

STANFORD MAGNETOGRAM

Np

Solid = +
Dashed= -



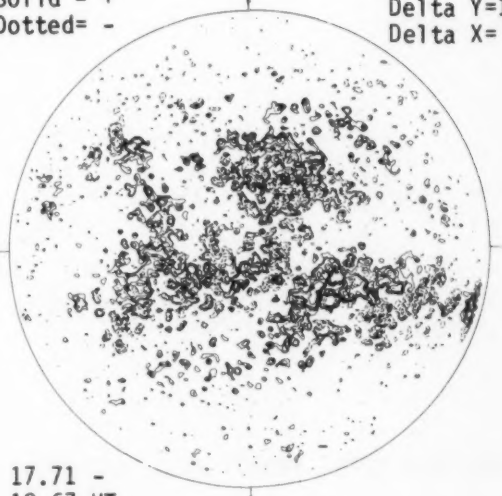
2018 UT

MT. WILSON MAGNETOGRAM

Np

Solid = +
Dotted= -

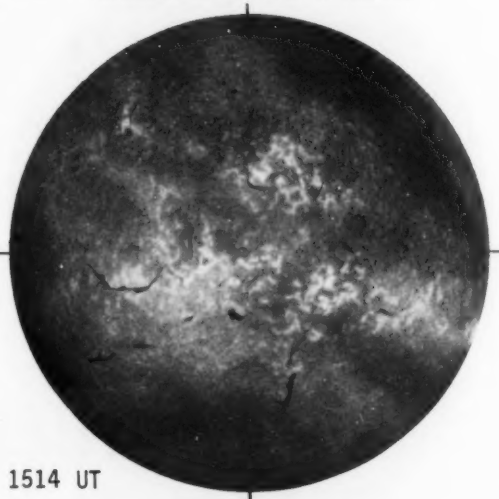
Delta Y=12.7
Delta X= 9.6



—W

17.71 -
18.67 UT

SACRAMENTO PEAK H-ALPHA

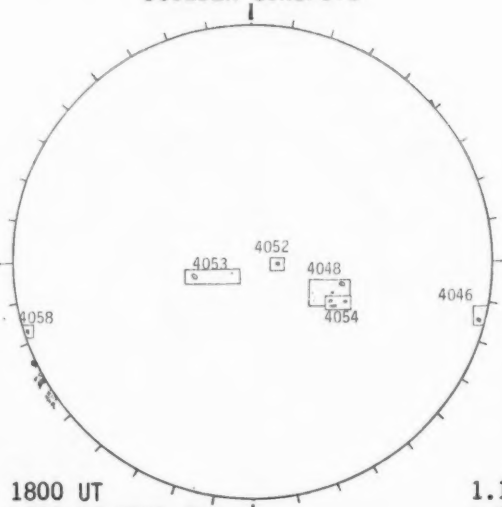


E

1514 UT

Sp

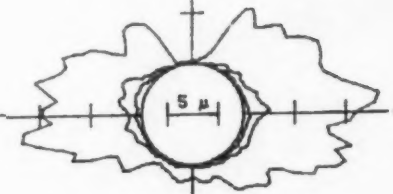
BOULDER SUNSPOTS



1800 UT
1800 UT BOUL Prom

Sp

SACRAMENTO PEAK CORONA (5303 Angstrom)



W

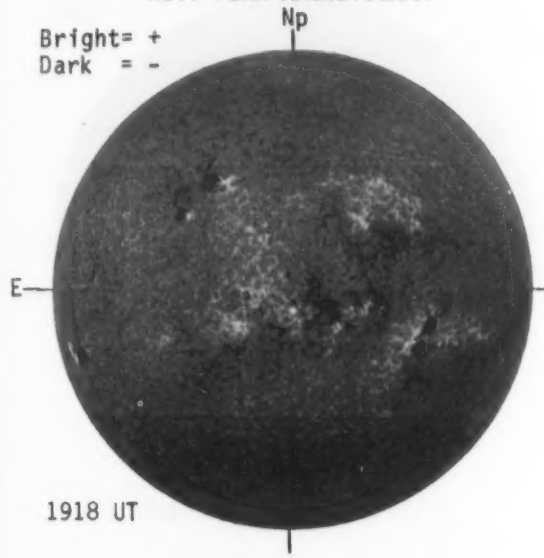
1.15 R_o 2006 UT
1.35 R_o 2012 UT
1.55 R_o 2019 UT

Sp

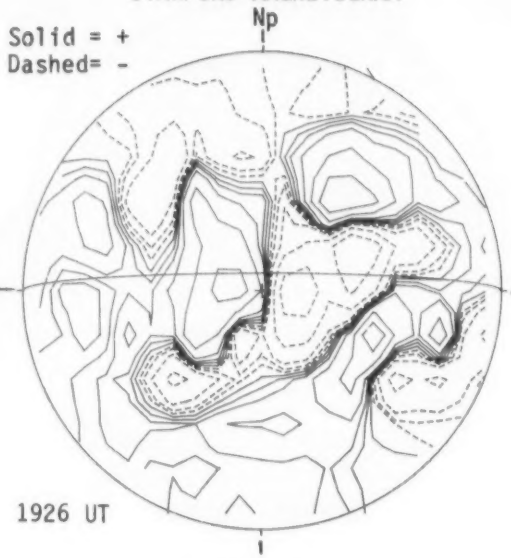
49
Jan 83

J A N U A R Y 11, 1 9 8 3 (P=- 2.53, B_o=-4.12, L_o= 107.63)

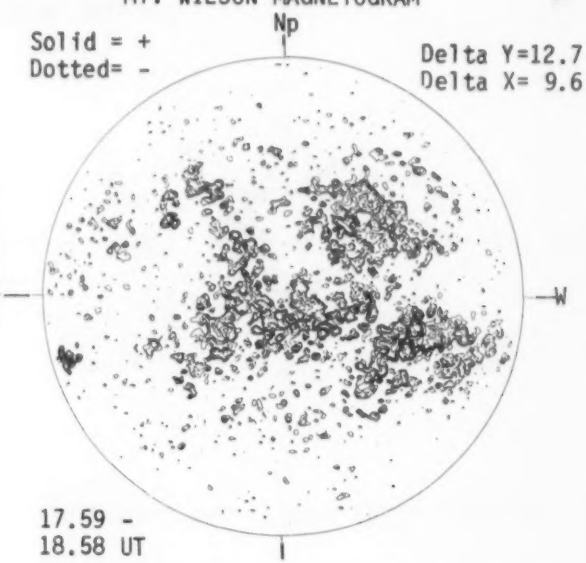
KITT PEAK MAGNETOGRAM



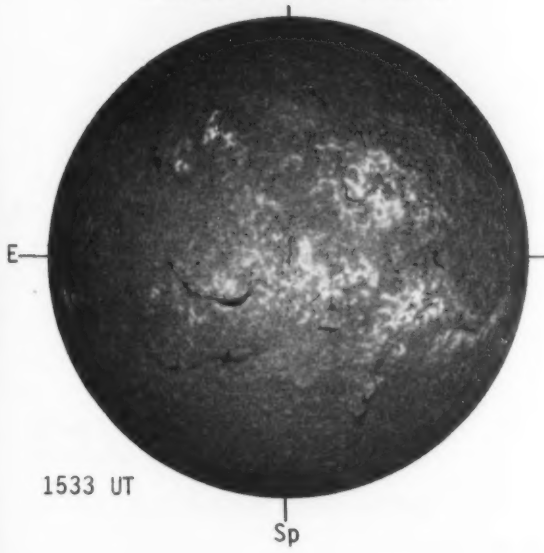
STANFORD MAGNETOGRAM



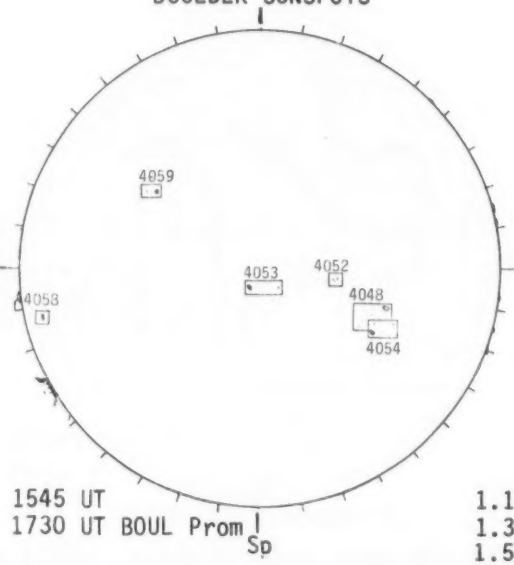
MT. WILSON MAGNETOGRAM



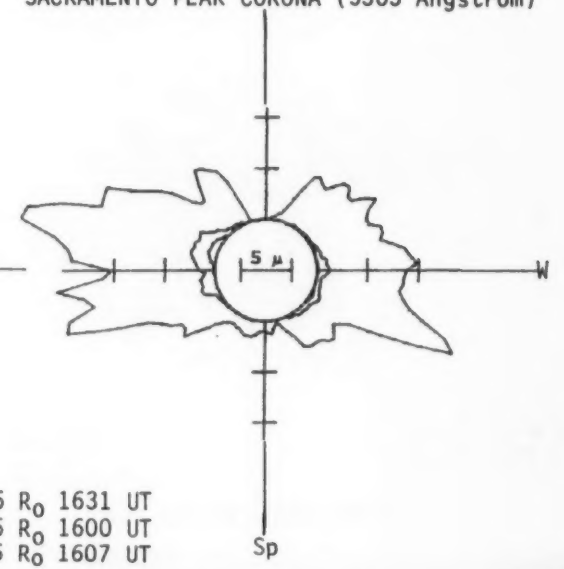
SACRAMENTO PEAK H-ALPHA



BOULDER SUNSPOTS



SACRAMENTO PEAK CORONA (5303 Angstrom)



J A N U A R Y 12, 1 9 8 3 (P=- 3.01, B_o=-4.22, L_o= 94.46)

Sp

1730 UT BOUL Prom

Sp

1.35 R_o 1600 UT
1.55 R_o 1607 UT

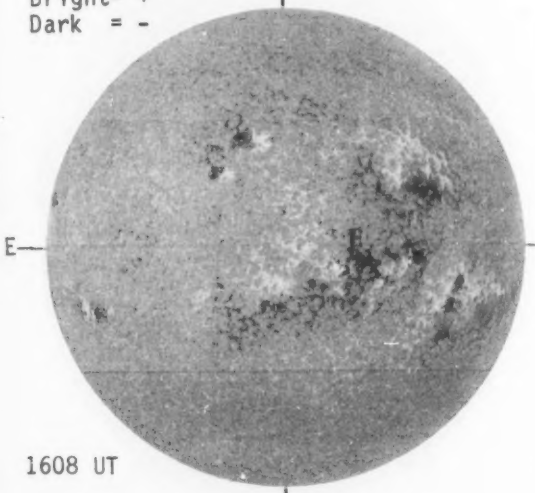
Sp

J A N U A R Y 12, 1 9 8 3 (P=- 3.01, B_o=-4.22, L_o= 94.46)

KITT PEAK MAGNETOGRAM

Np

Bright= +
Dark = -



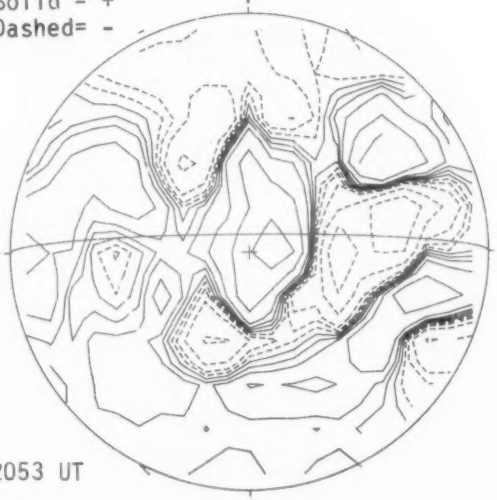
E

1608 UT

STANFORD MAGNETOGRAM

Np

Solid = +
Dashed= -



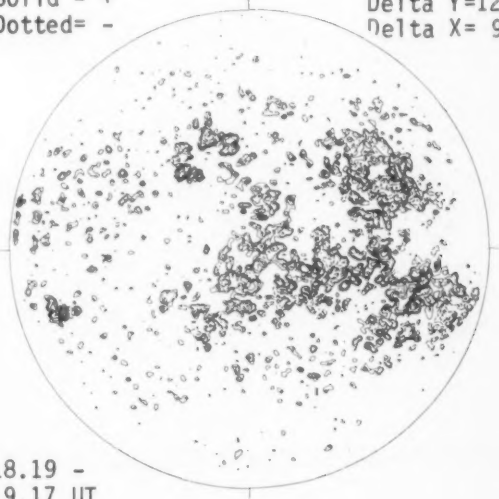
2053 UT

MT. WILSON MAGNETOGRAM

Np

Solid = +
Dotted= -

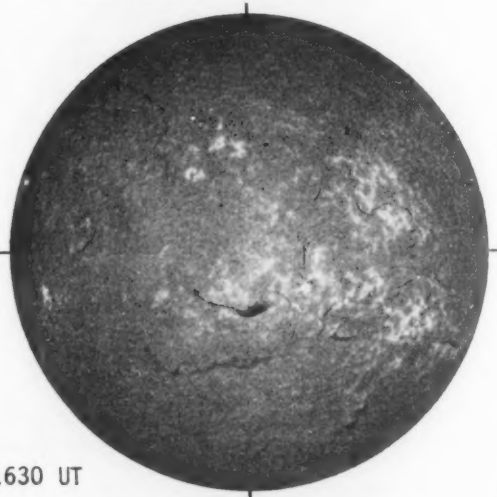
Delta Y=12.7
Delta X= 9.6



W

18.19 -
19.17 UT

SACRAMENTO PEAK H-ALPHA

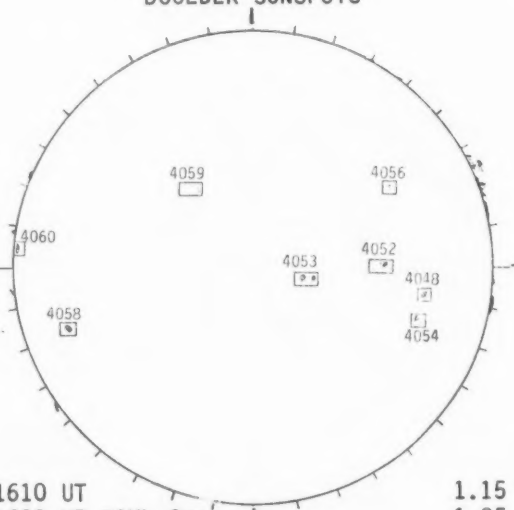


E

1630 UT

Sp

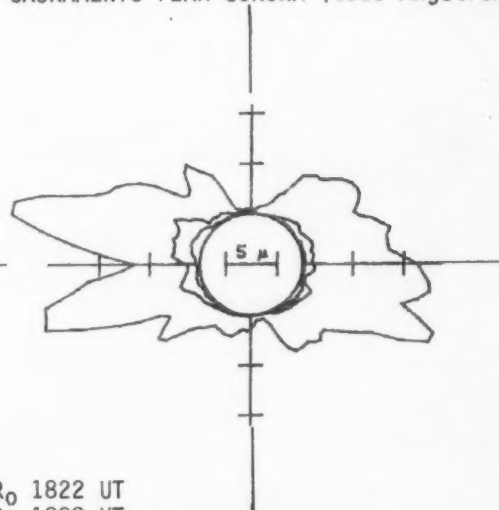
BOULDER SUNSPOTS



1610 UT
1620 UT BOUL Prom

Sp

SACRAMENTO PEAK CORONA (5303 Angstrom)



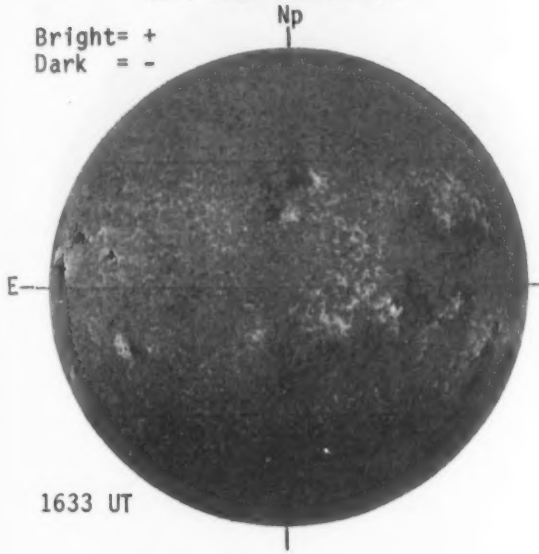
W

1.15 R_o 1822 UT
1.35 R_o 1808 UT
1.55 R_o 1814 UT

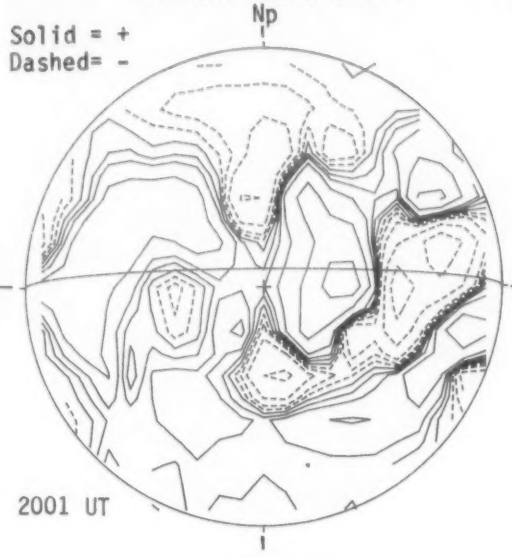
Sp

JANUARY 13, 1983 (P=- 3.49, B_0=-4.33, L_0= 81.30)

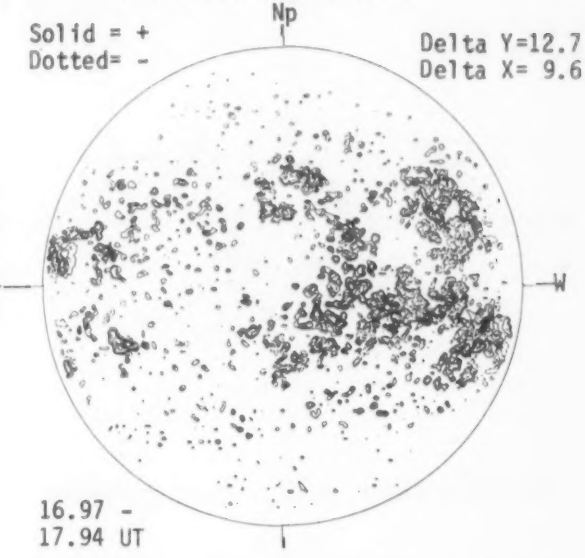
KITT PEAK MAGNETOGRAM



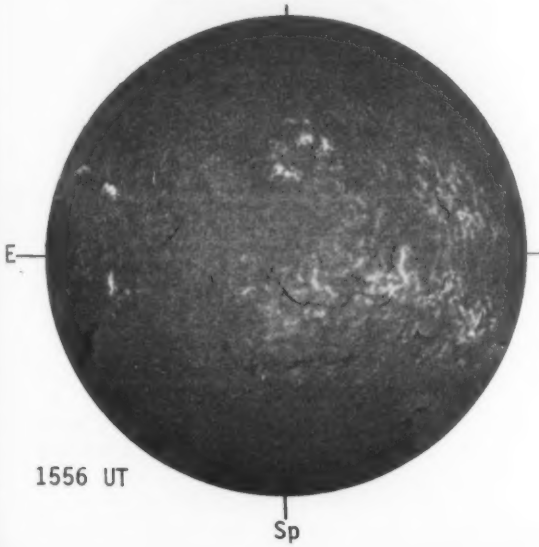
STANFORD MAGNETOGRAM



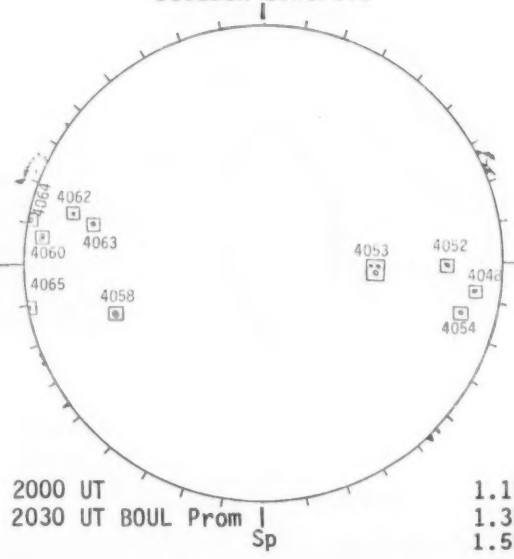
MT. WILSON MAGNETOGRAM



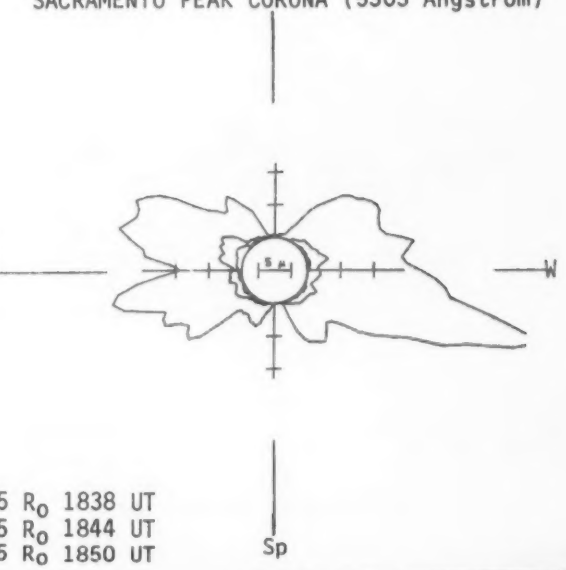
SACRAMENTO PEAK H-ALPHA



BOULDER SUNSPOTS



SACRAMENTO PEAK CORONA (5303 Angstrom)



Sp

2030 UT BOUL Prom

Sp

1.15 R_o 1838 UT
1.35 R_o 1844 UT
1.55 R_o 1850 UT

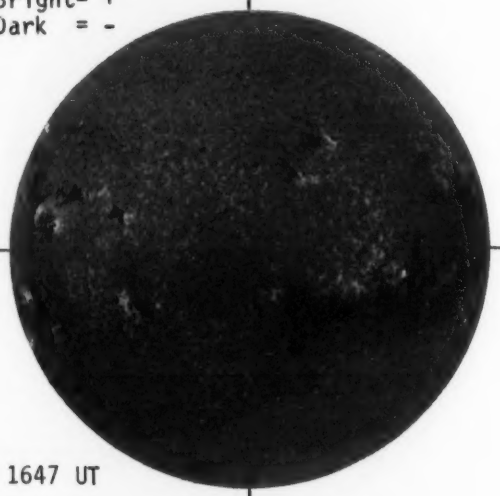
Sp

J A N U A R Y 14, 1 9 8 3 (P=- 3.96, B_o=-4.43, L_o= 68.13)

KITT PEAK MAGNETOGRAM

Np

Bright= +
Dark = -



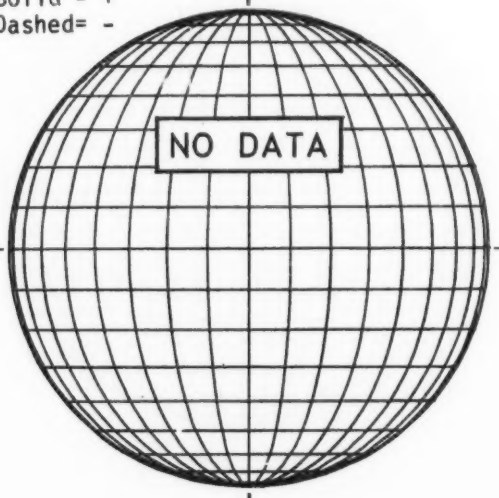
E

1647 UT

STANFORD MAGNETOGRAM

Np

Solid = +
Dashed= -

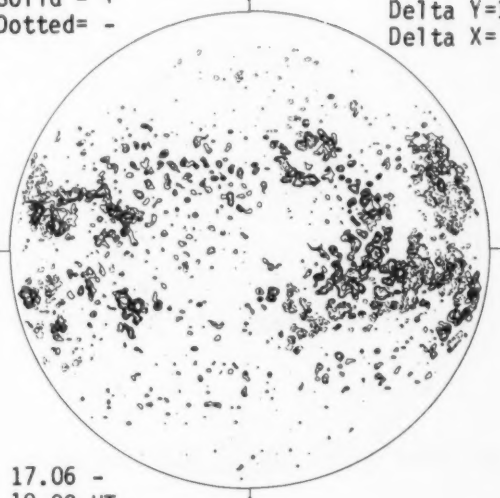


MT. WILSON MAGNETOGRAM

Np

Solid = +
Dotted= -

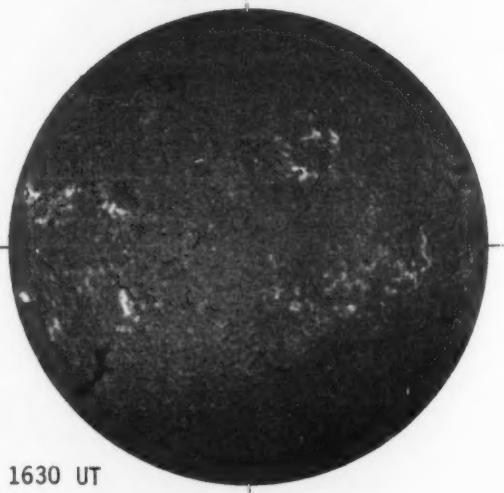
Delta Y=12.7
Delta X= 9.6



W

17.06 -
18.02 UT

BOULDER H-ALPHA

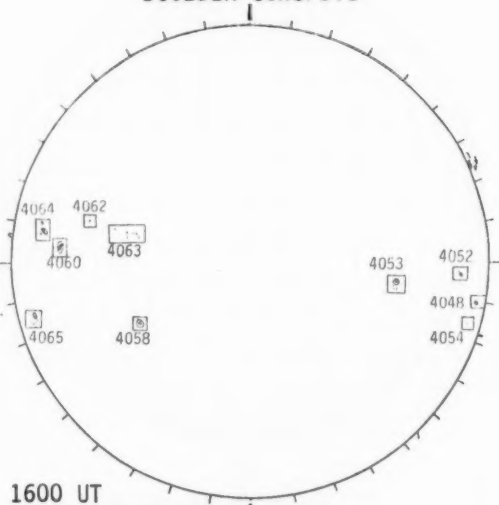


E

1630 UT

Sp

BOULDER SUNSPOTS



1600 UT
1630 UT BOUL Prom

Sp

SACRAMENTO PEAK CORONA (5303 Angstrom)

W

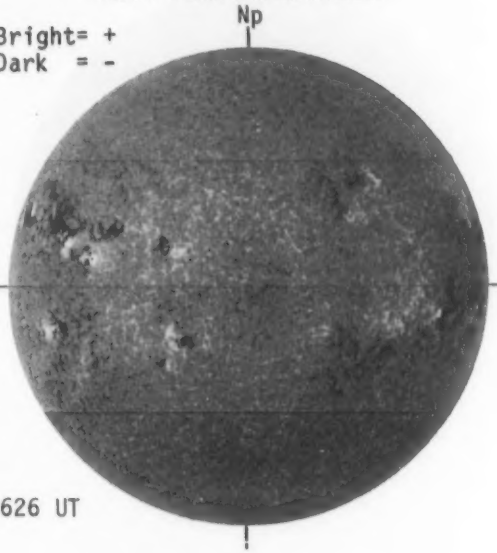
Sp

53
Jan 83

J A N U A R Y 15, 1 9 8 3 (P=- 4.43, B_0=-4.53, L_0= 54.96)

KITT PEAK MAGNETOGRAM

Bright= +
Dark = -

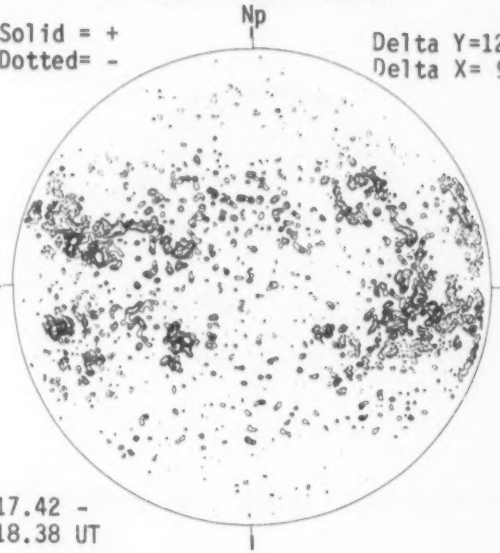


STANFORD MAGNETOGRAM

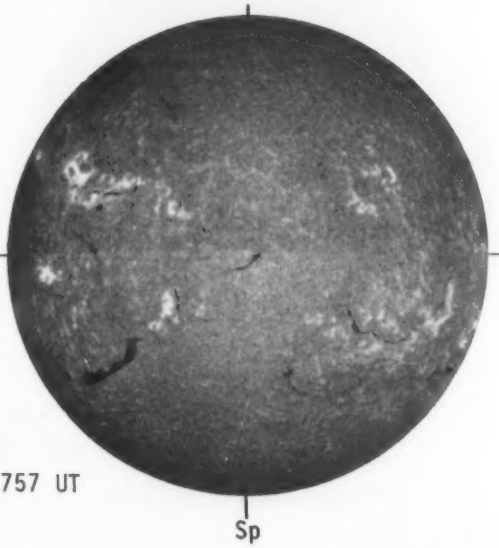
Solid = +
Dashed= -

MT. WILSON MAGNETOGRAM

Solid = +
Dotted= -
Delta Y=12.7
Delta X= 9.6

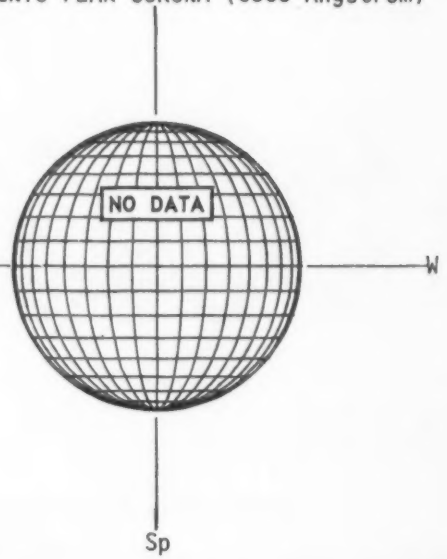


SACRAMENTO PEAK H-ALPHA



BOULDER SUNSPOTS

SACRAMENTO PEAK CORONA (5303 Angstrom)



J A N U A R Y 16, 1 9 8 3 (P=- 4.90, B_0=-4.63, L_0= 41.79)

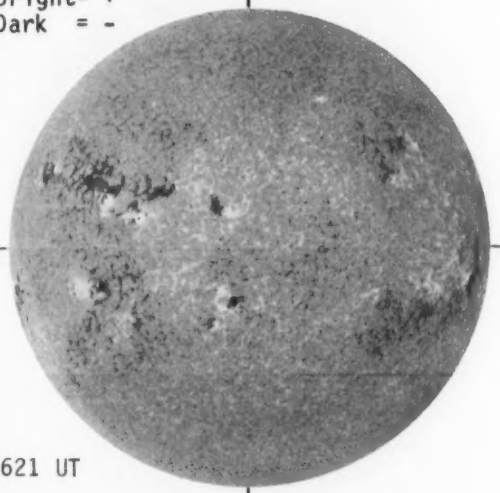
Sp Sp Sp

J A N U A R Y 16, 1 9 8 3 (P=- 4.90, B_o=-4.63, L_o= 41.79)

KITT PEAK MAGNETOGRAM

Np

Bright= +
Dark = -



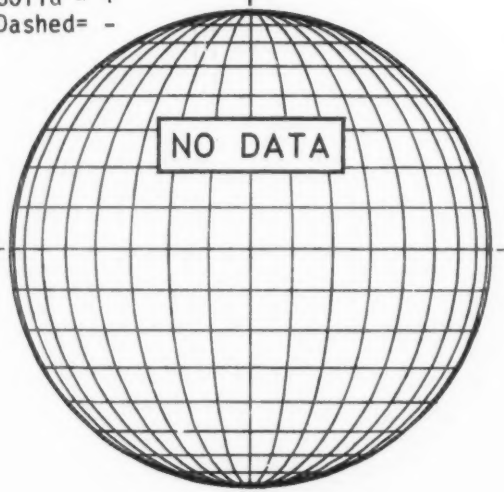
E

1621 UT

STANFORD MAGNETOGRAM

Np

Solid = +
Dashed= -



MT. WILSON MAGNETOGRAM

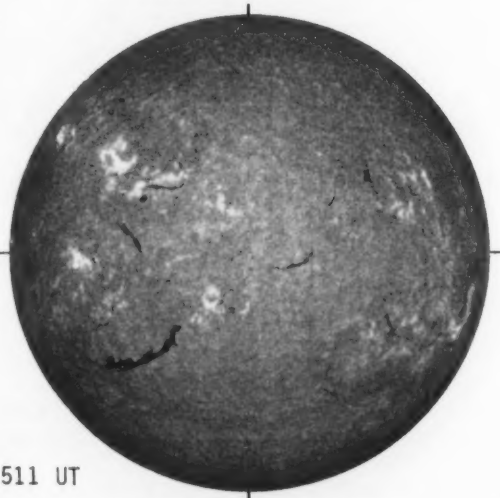
Np

Solid = +
Dotted= -

Delta Y=12.7
Delta X= 9.6

W

HOLLOMAN H-ALPHA



E

1511 UT

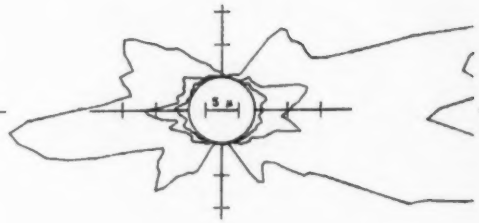
Sp

BOULDER SUNSPOTS

1913 UT HOLL Prom

Sp

SACRAMENTO PEAK CORONA (5303 Angstrom)



W

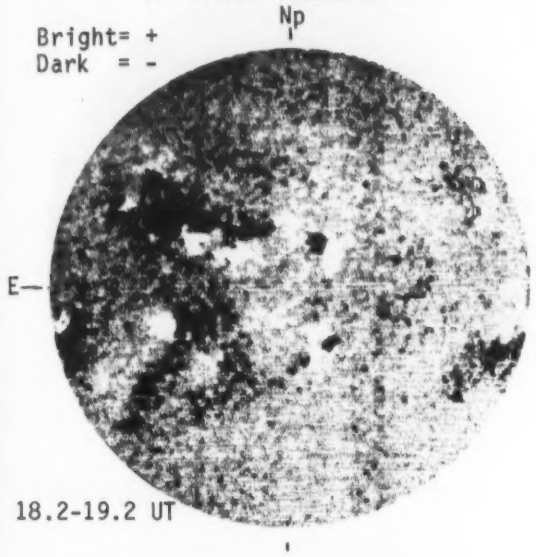
1.15 R_o 1903 UT
1.35 R_o 1914 UT
1.55 R_o 1821 UT

Sp

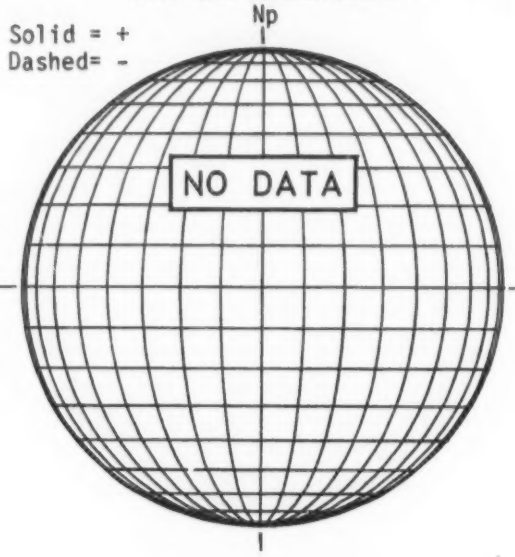
55
Jan 83

JANUARY 17, 1983 (P=- 5.37, B_0=-4.73, L_0= 28.63)

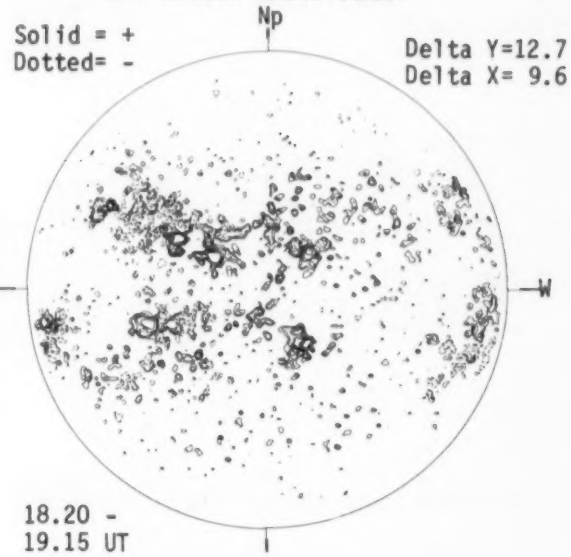
MT.WILSON MAGNETOGRAM



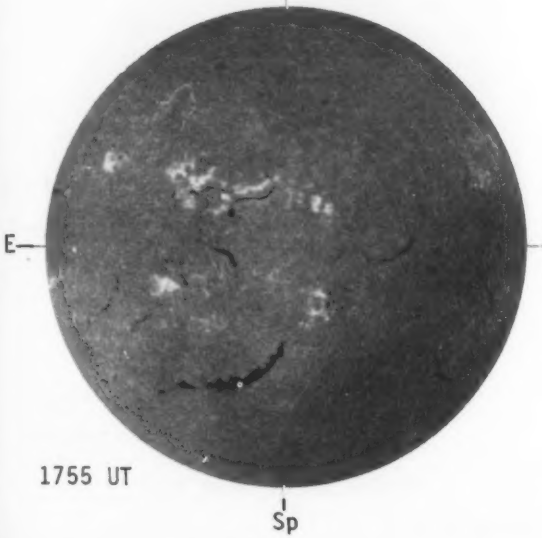
STANFORD MAGNETOGRAM



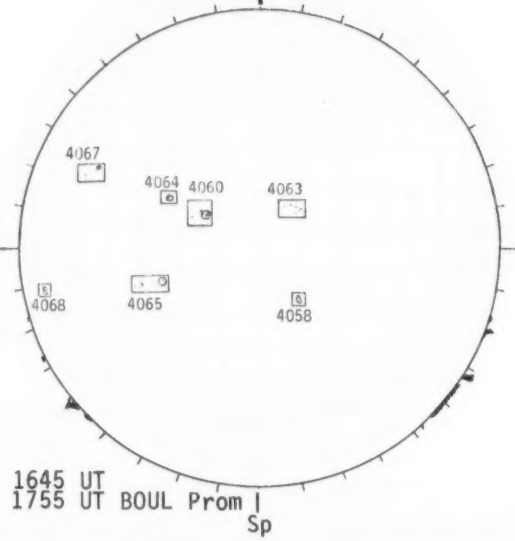
MT. WILSON MAGNETOGRAM



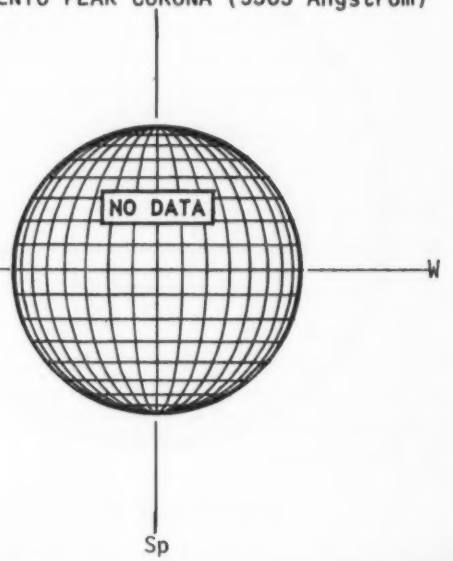
BOULDER H-ALPHA



BOULDER SUNSPOTS



SACRAMENTO PEAK CORONA (5303 Angstrom)



JANUARY 18, 1983 (P=- 5.84, B_0=-4.82, L_0= 15.46)

1755 UT BOUL Prom

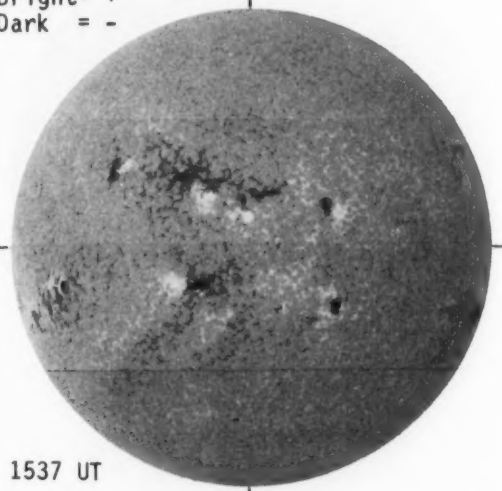
Sp Sp Sp

J A N U A R Y 18, 1 9 8 3 (P=- 5.84, B_o=-4.82, L_o= 15.46)

KITT PEAK MAGNETOGRAM

Np

Bright= +
Dark = -



E

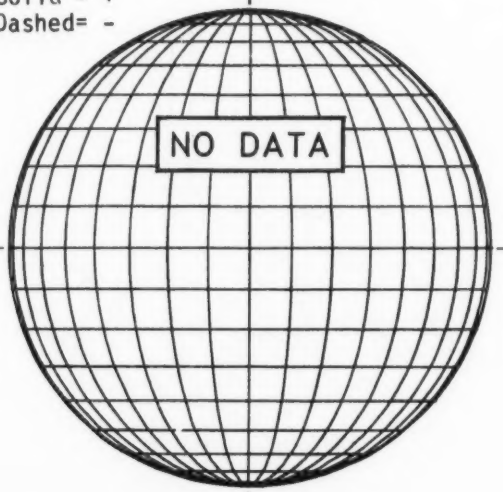
1537 UT

Sp

STANFORD MAGNETOGRAM

Np

Solid = +
Dashed= -



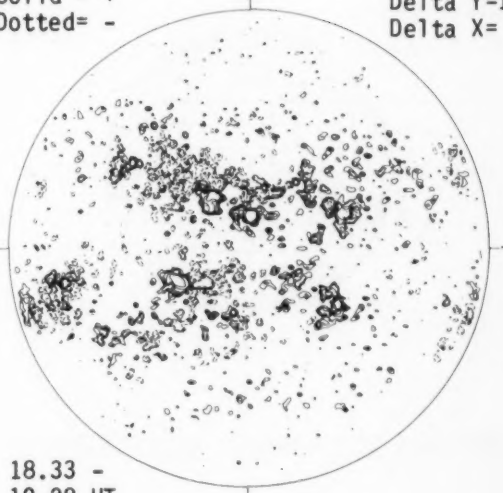
Sp

MT. WILSON MAGNETOGRAM

Np

Solid = +
Dotted= -

Delta Y=12.7
Delta X= 9.6

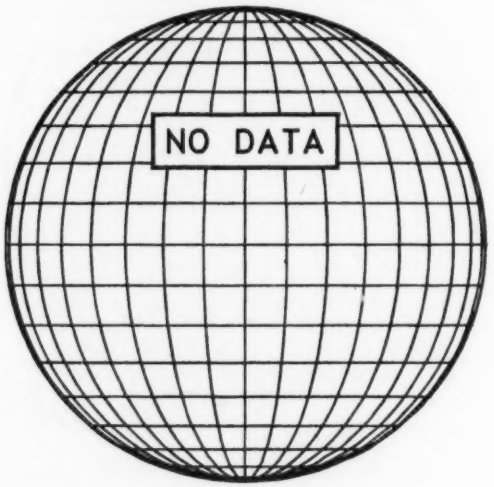


W

18.33 -
19.28 UT

Sp

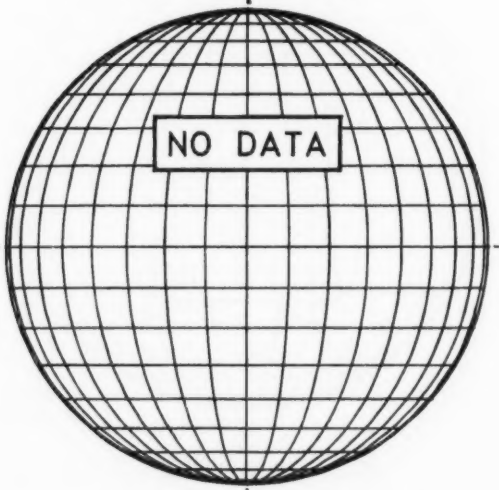
SACRAMENTO PEAK H-ALPHA



E

Sp

BOULDER SUNSPOTS



Sp

SACRAMENTO PEAK CORONA (5303 Angstrom)

W

Sp

J A N U A R Y 19, 1 9 8 3 (P=- 6.30, B_0=-4.92, L_0= 2.29)

KITT PEAK MAGNETOGRAM

Bright= +
Dark = -

Np

NO DATA

E

STANFORD MAGNETOGRAM

Solid = +
Dashed= -

Np

NO DATA

MT. WILSON MAGNETOGRAM

Solid = +
Dotted= -

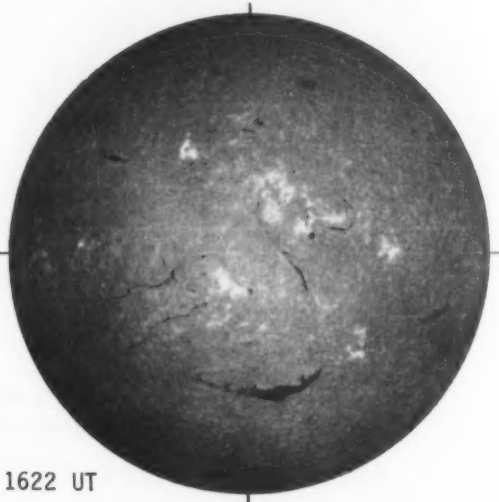
Np

Delta Y=12.7
Delta X= 9.6

NO DATA

W

SACRAMENTO PEAK H-ALPHA

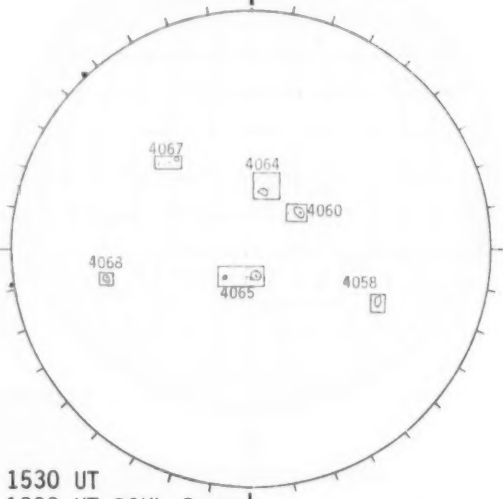


E

1622 UT

Sp

BOULDER SUNSPOTS



1530 UT
1200 UT BOUL Prom

Sp

SACRAMENTO PEAK CORONA (5303 Angstrom)

NO DATA

W

Sp

1622 UT

Sp

1530 UT
1200 UT BOUL Prom

Sp

Sp

J A N U A R Y 20, 1 9 8 3 (P=- 6.76, B_0=-5.01, L_0= 349.13)

MT. WILSON MAGNETOGRAM

Np

Bright= +
Dark = -

E

17.8-18.7

STANFORD MAGNETOGRAM

Np

Solid = +
Dashed= -

1853 UT

MT. WILSON MAGNETOGRAM

Np

Solid = +
Dotted= -

Delta Y=12.7
Delta X= 9.6

W

17.79 -
18.74 UT

BOULDER H-ALPHA

E

1830 UT

Sp

BOULDER SUNSPOTS

4067
4064
4060
4068
4065
4058

1600 UT
1830 UT BOUL Prom

Sp

SACRAMENTO PEAK CORONA (5303 Angstrom)

NO DATA

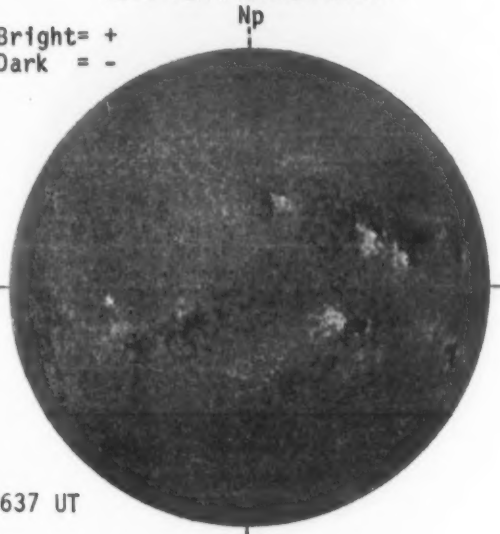
W

Sp

J A N U A R Y 2 1 , 1 9 8 3 (P=- 7.21, B_0=-5.11, L_0= 335.96)

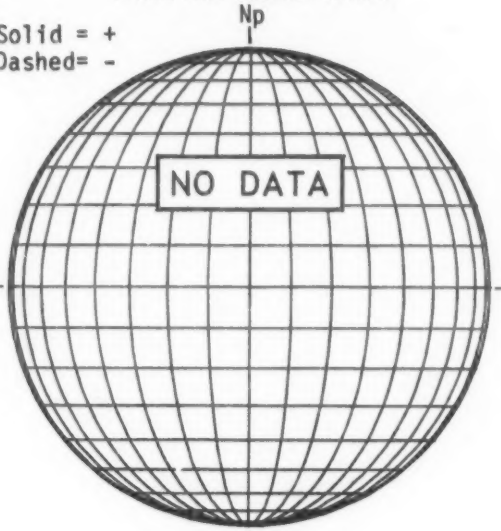
KITT PEAK MAGNETOGRAM

Bright= +
Dark = -



STANFORD MAGNETOGRAM

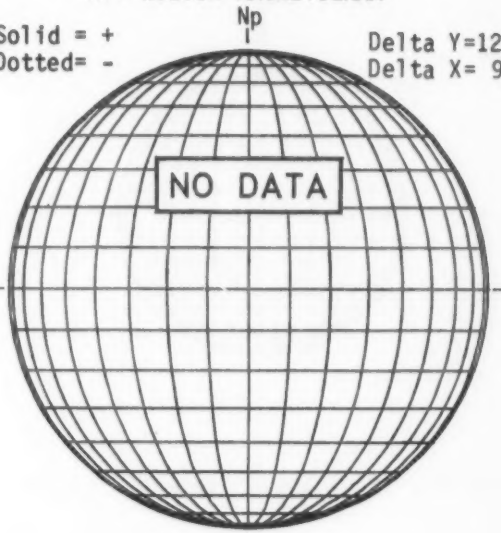
Solid = +
Dashed= -



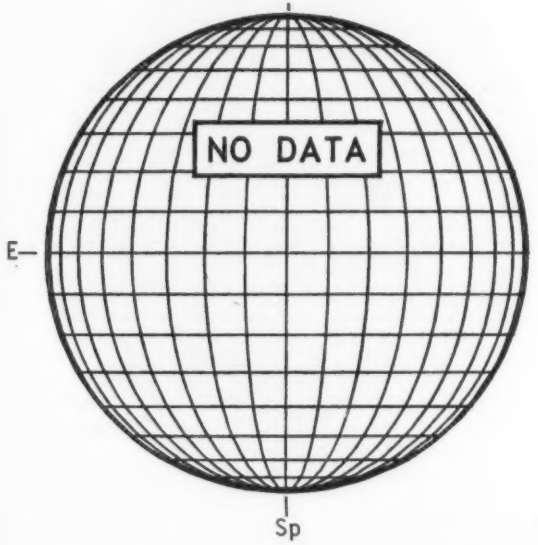
MT. WILSON MAGNETOGRAM

Solid = +
Dotted= -

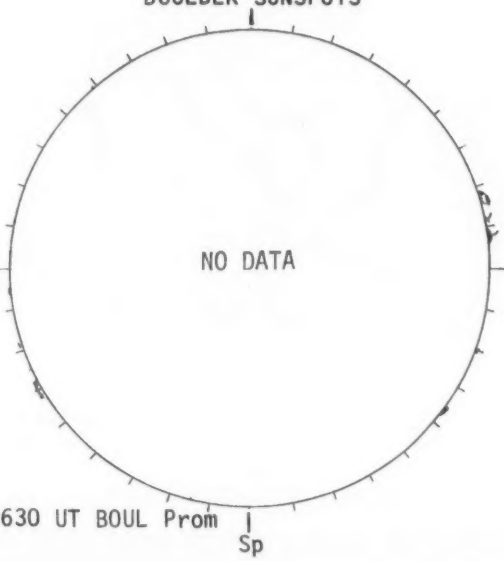
Delta Y=12.7
Delta X= 9.6



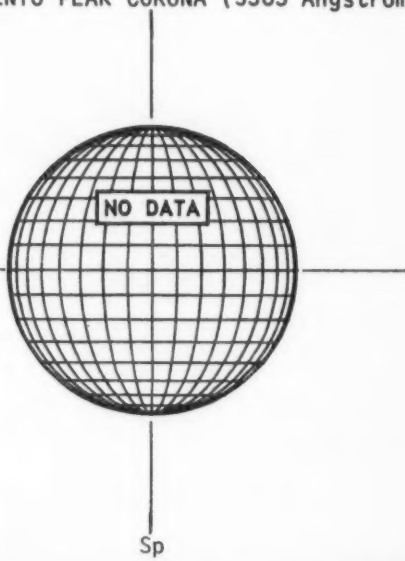
SACRAMENTO PEAK H-ALPHA



BOULDER SUNSPOTS



SACRAMENTO PEAK CORONA (5303 Angstrom)



J A N U A R Y 2 2 , 1 9 8 3 (P=- 7.66, B_0=-5.20, L_0= 322.79)

Sp

1630 UT BOUL Prom

Sp

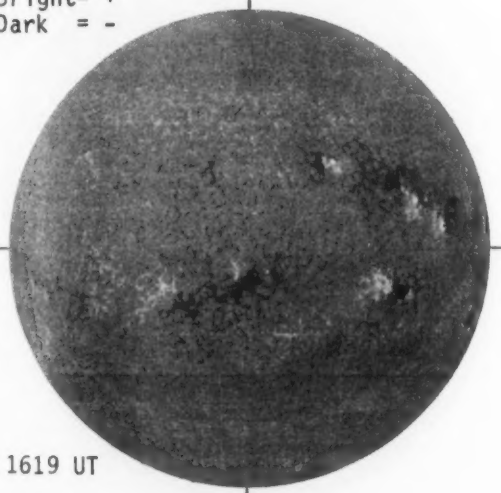
Sp

J A N U A R Y 22, 1 9 8 3 (P=- 7.66, B_o=-5.20, L_o= 322.79)

KITT PEAK MAGNETOGRAM

Np

Bright= +
Dark = -



E

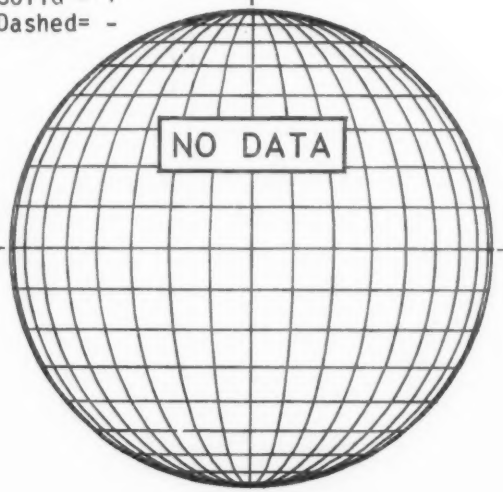
1619 UT

Sp

STANFORD MAGNETOGRAM

Np

Solid = +
Dashed= -



Sp

MT. WILSON MAGNETOGRAM

Np

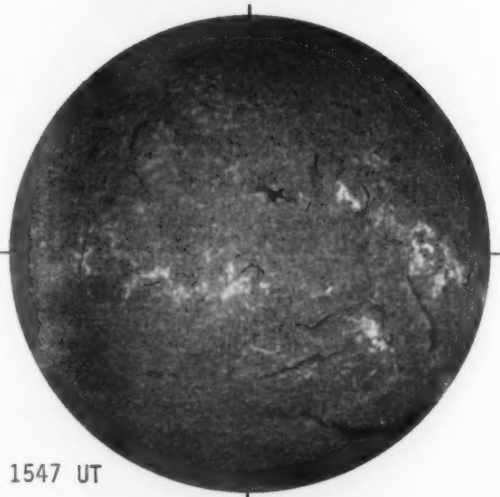
Solid = +
Dotted= -

Delta Y=12.7
Delta X= 9.6

W

Sp

SACRAMENTO PEAK H-ALPHA

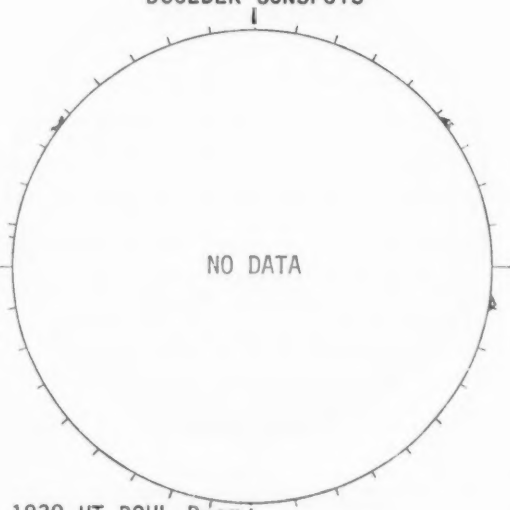


E

1547 UT

Sp

BOULDER SUNSPOTS



1830 UT BOUL Prom

Sp

SACRAMENTO PEAK CORONA (5303 Angstrom)

W

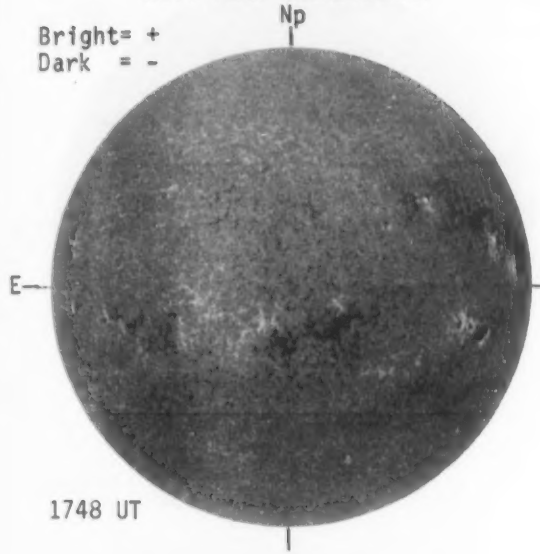
Sp

61
Jan 83

J A N U A R Y 23, 1 9 8 3 (P=- 8.11, B_0=-5.29, L_0= 309.63)

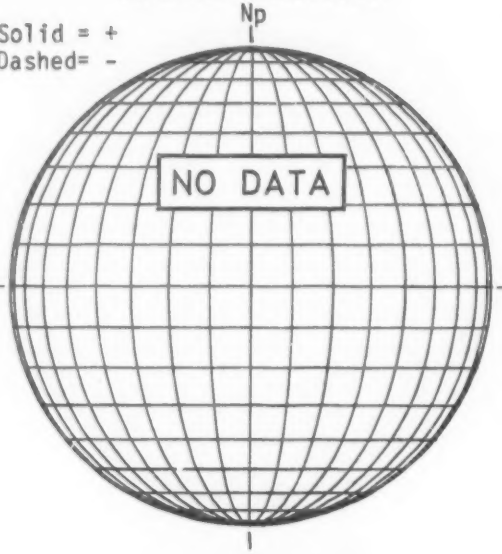
KITT PEAK MAGNETOGRAM

Bright= +
Dark = -



STANFORD MAGNETOGRAM

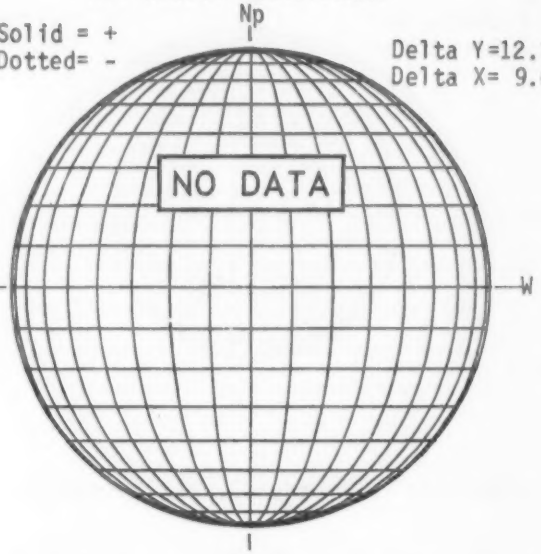
Solid = +
Dashed= -



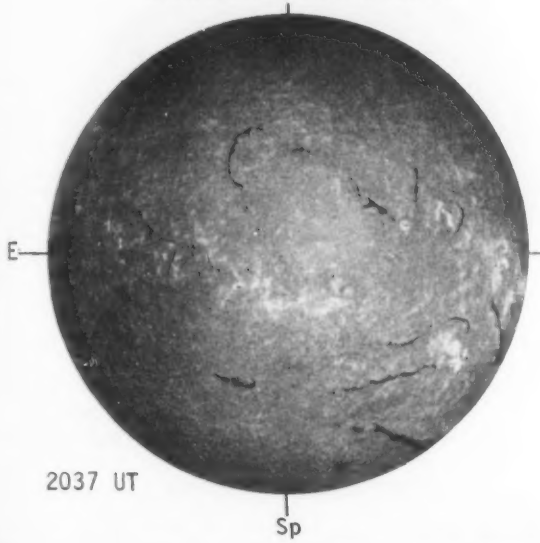
MT. WILSON MAGNETOGRAM

Solid = +
Dotted= -

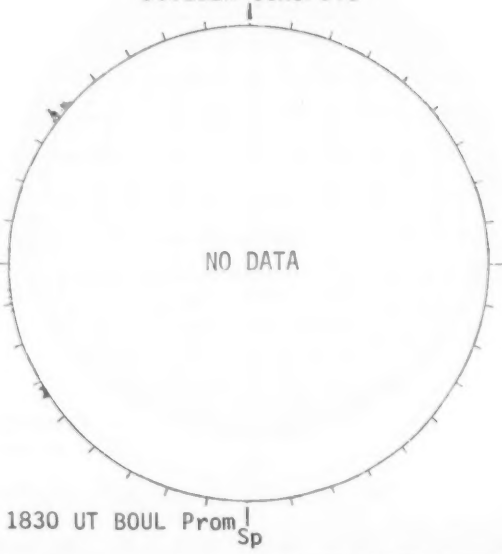
Delta Y=12.7
Delta X= 9.6



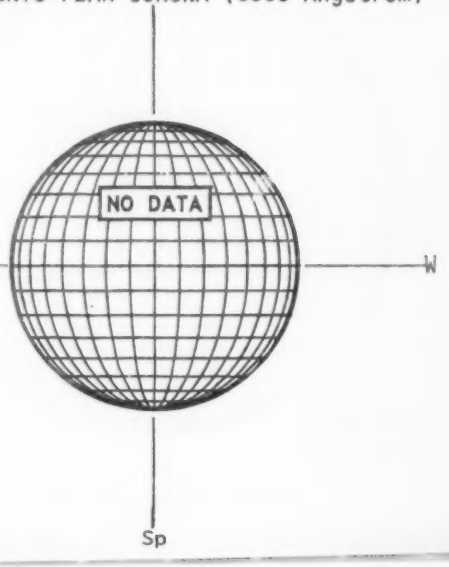
SACRAMENTO PEAK H-ALPHA



BOULDER SUNSPOTS



SACRAMENTO PEAK CORONA (5303 Angstrom)



2037 UT

Sp

1830 UT BOUL Prom

Sp

Sp

J A N U A R Y 24, 1 9 8 3 (P=- 8.56, B_o=-5.37, L_o= 296.46)

KITT PEAK MAGNETOGRAM

Bright= +
Dark = -

Np

NO DATA

E

STANFORD MAGNETOGRAM

Solid = +
Dashed= -

Np

NO DATA

MT. WILSON MAGNETOGRAM

Solid = +
Dotted= -

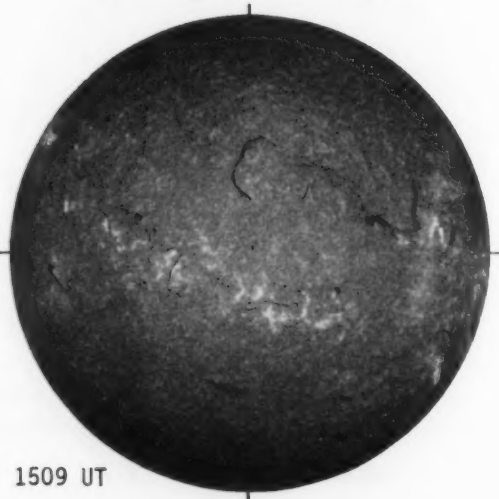
Delta Y=12.7
Delta X= 9.6

Np

NO DATA

W

SACRAMENTO PEAK H-ALPHA

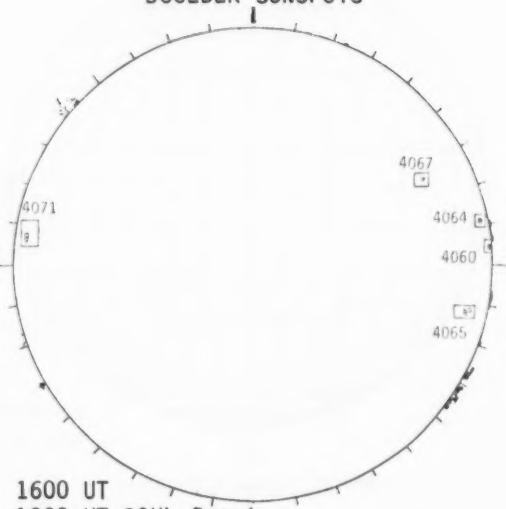


E

1509 UT

Sp

BOULDER SUNSPOTS



1600 UT
1830 UT BOUL Prom

Sp

SACRAMENTO PEAK CORONA (5303 Angstrom)

NO DATA

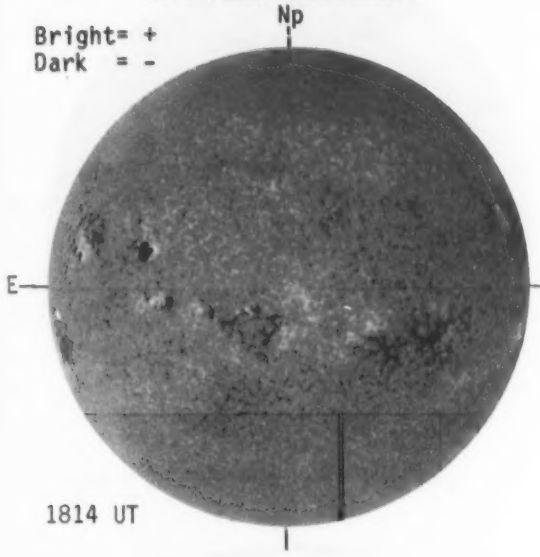
W

Sp

63
Jan 83

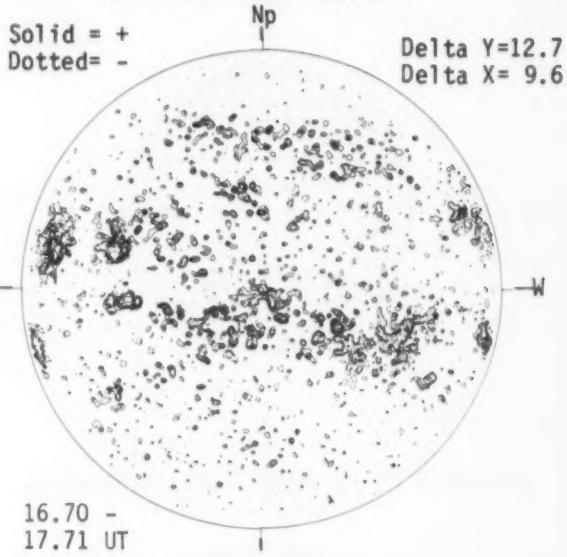
JANUARY 25, 1983 (P=- 9.00, B_0=-5.46, L_0= 283.29)

KITT PEAK MAGNETOGRAM

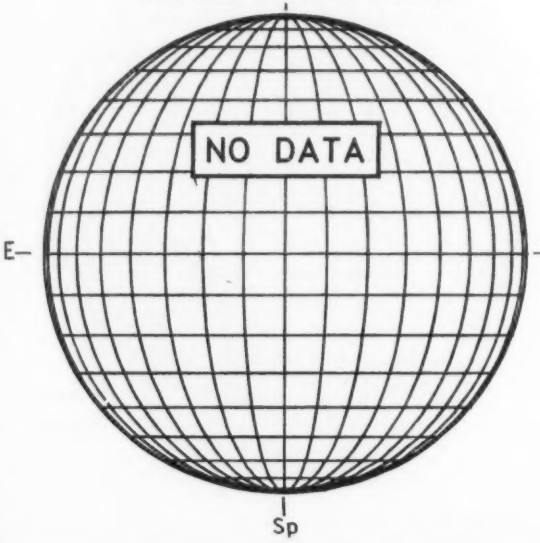


STANFORD MAGNETOGRAM

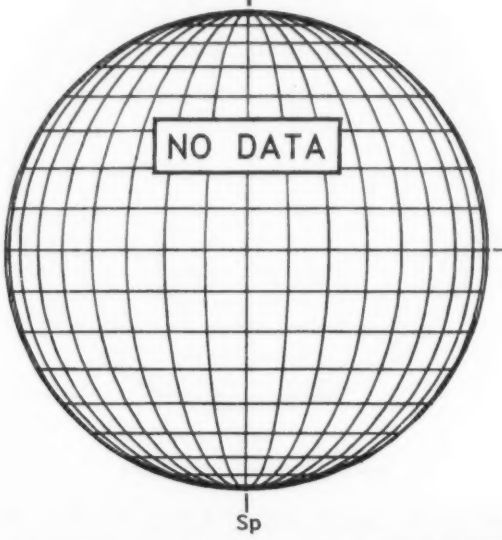
MT. WILSON MAGNETOGRAM



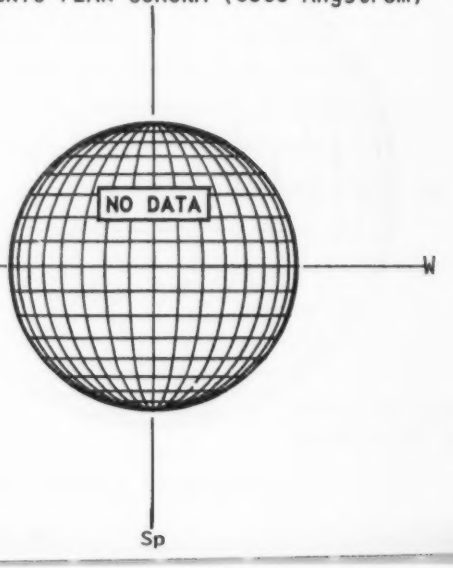
SACRAMENTO PEAK H-ALPHA



BOULDER SUNSPOTS



SACRAMENTO PEAK CORONA (5303 Angstrom)

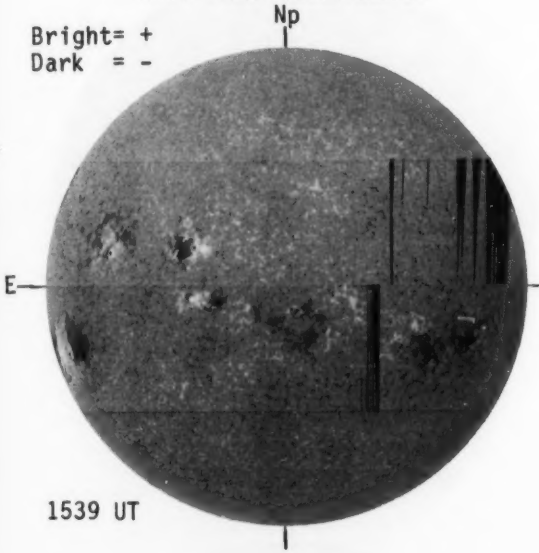


Sp Sp Sp

J A N U A R Y 26, 1 9 8 3 (P=- 9.44, B_0=-5.54, L_0= 270.13)

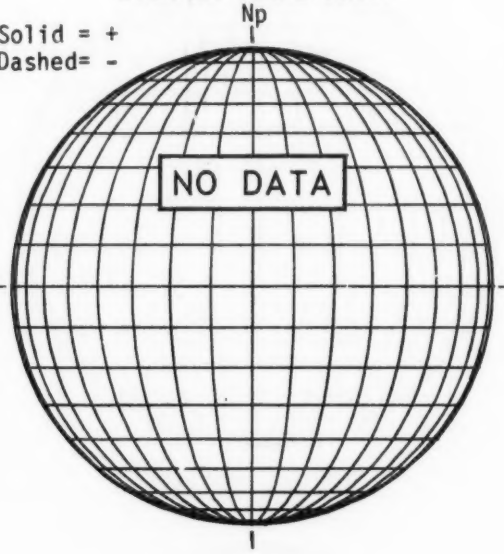
KITT PEAK MAGNETOGRAM

Bright= +
Dark = -



STANFORD MAGNETOGRAM

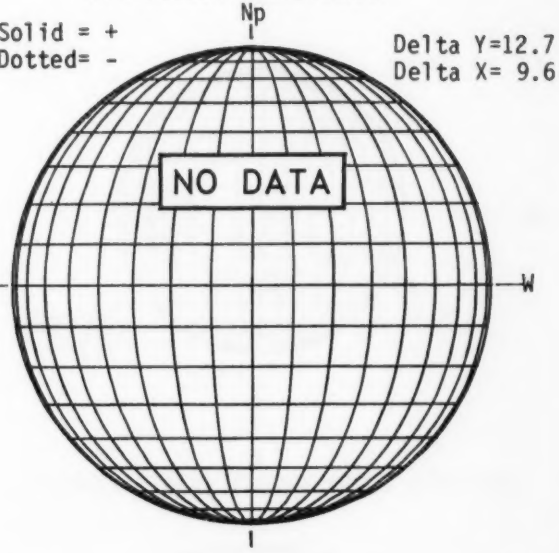
Solid = +
Dashed= -



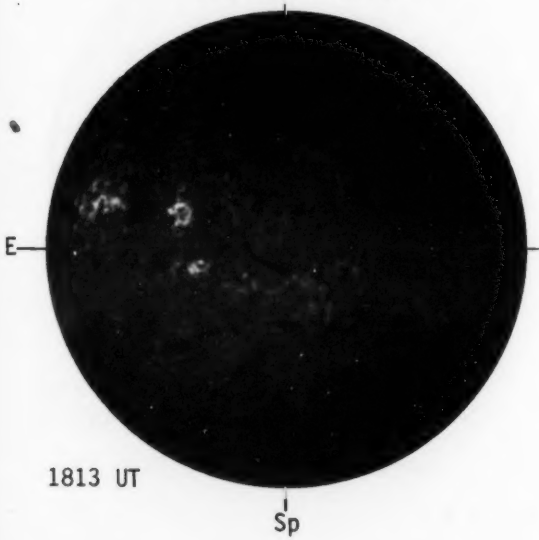
MT. WILSON MAGNETOGRAM

Solid = +
Dotted= -

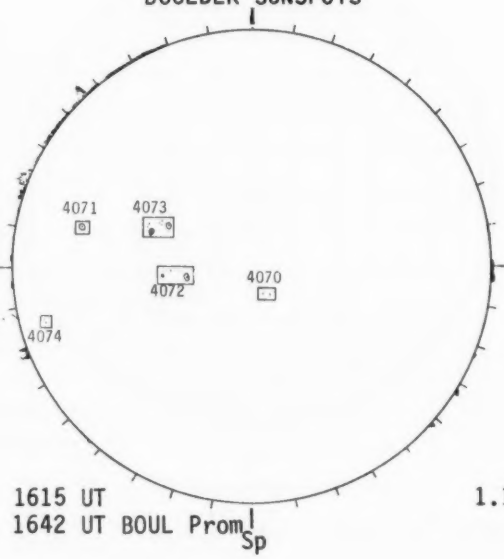
Delta Y=12.7
Delta X= 9.6



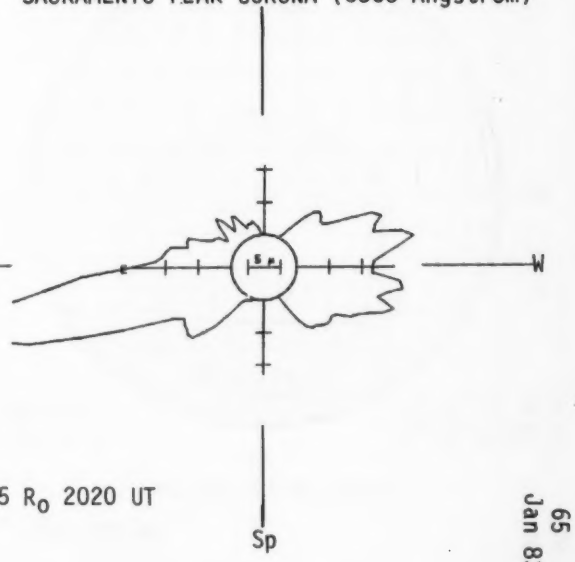
BOULDER H-ALPHA



BOULDER SUNSPOTS



SACRAMENTO PEAK CORONA (5303 Angstrom)

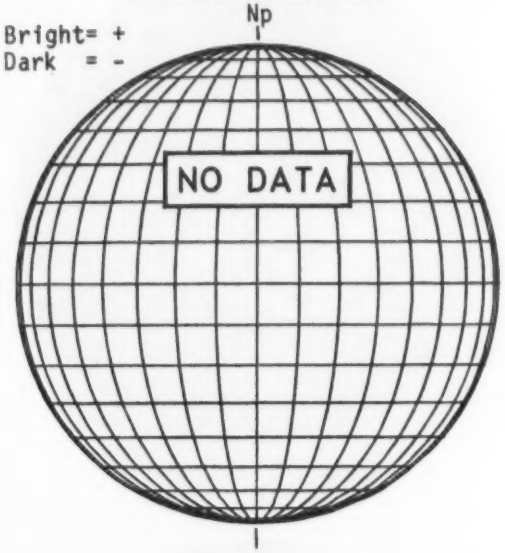


65
Jan 83

J A N U A R Y 27, 1 9 8 3 (P=- 9.87, B_o=-5.62, L_o= 256.96)

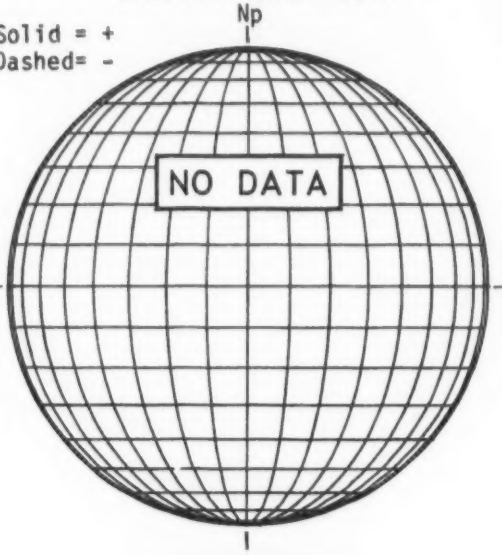
KITT PEAK MAGNETOGRAM

Bright= +
Dark = -



STANFORD MAGNETOGRAM

Solid = +
Dashed= -



MT. WILSON MAGNETOGRAM

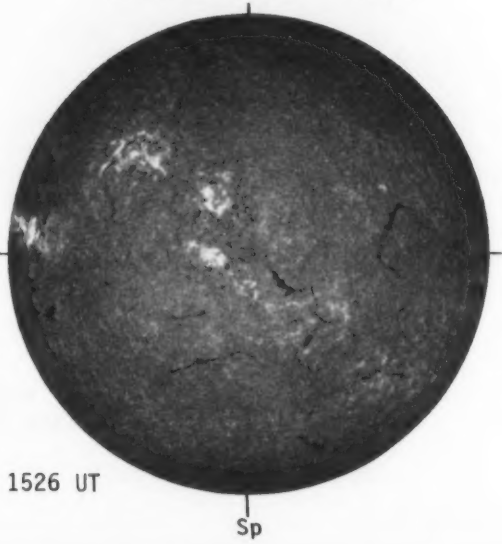
Solid = +
Dotted= -

Delta Y=12.7
Delta X= 9.6

E

W

SACRAMENTO PEAK H-ALPHA



BOULDER SUNSPOTS

SACRAMENTO PEAK CORONA (5303 Angstrom)

E

W

J A N U A R Y 28, 1 9 8 3 (P= 10.30, B_o = 5.70, L_o = 243.79)

1526 UT

Sp

Sp

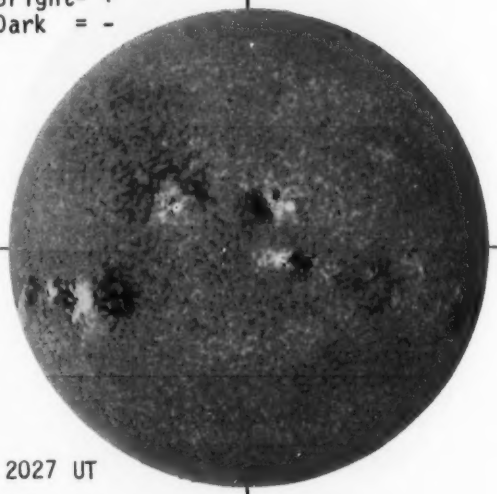
Sp

J A N U A R Y 28, 1 9 8 3 (P=-10.30, B_o=-5.70, L_o= 243.79)

KITT PEAK MAGNETOGRAM

Np

Bright= +
Dark = -



E

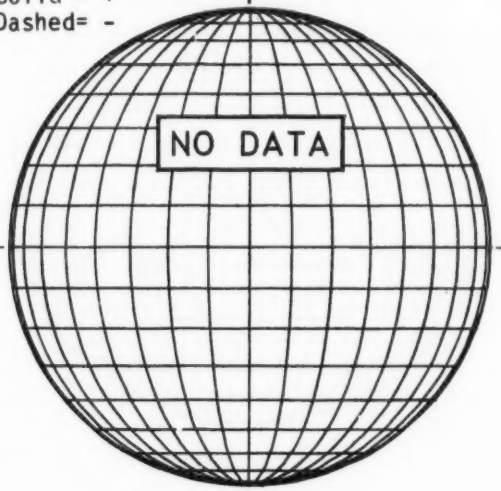
2027 UT

Sp

STANFORD MAGNETOGRAM

Np

Solid = +
Dashed= -



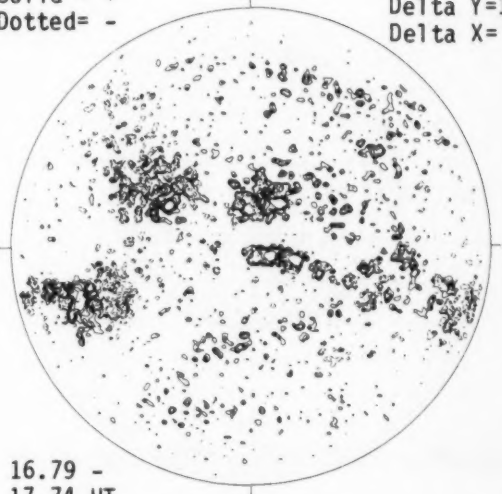
Sp

MT. WILSON MAGNETOGRAM

Np

Solid = +
Dotted= -

Delta Y=12.7
Delta X= 9.6

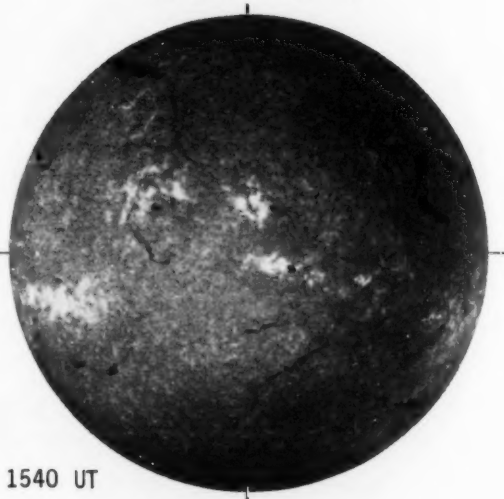


W

16.79 -
17.74 UT

Sp

BOULDER H-ALPHA

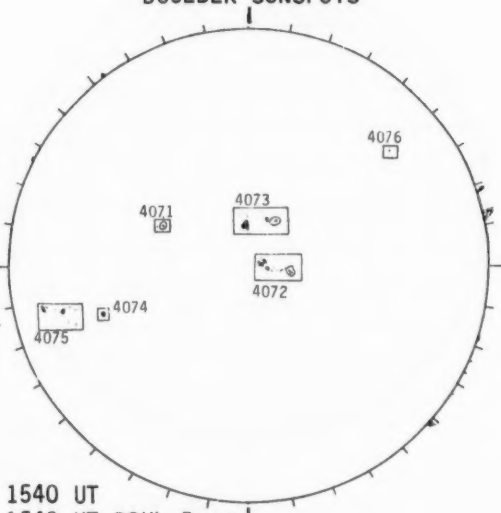


E

1540 UT

Sp

BOULDER SUNSPOTS



1540 UT
1540 UT BOUL Prom

Sp

SACRAMENTO PEAK CORONA (5303 Angstrom)

W

Sp

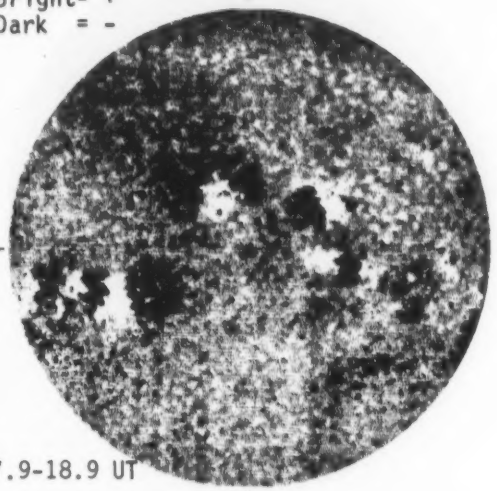
67
Jan 83

JANUARY 29, 1983 (P=-10.73, B_o=-5.78, L_o= 230.63)

MT. WILSON MAGNETOGRAM

Np

Bright= +
Dark = -



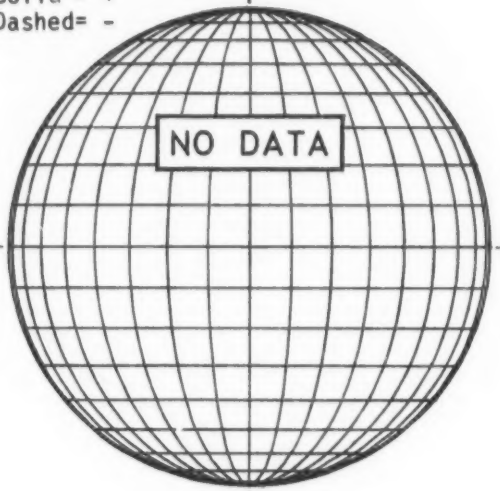
E

17.9-18.9 UT

STANFORD MAGNETOGRAM

Np

Solid = +
Dashed= -

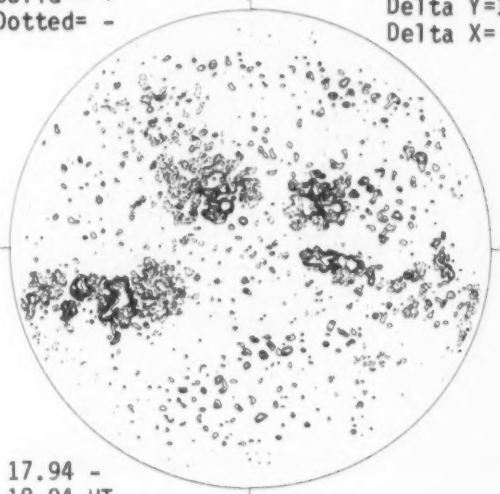


MT. WILSON MAGNETOGRAM

Np

Solid = +
Dotted= -

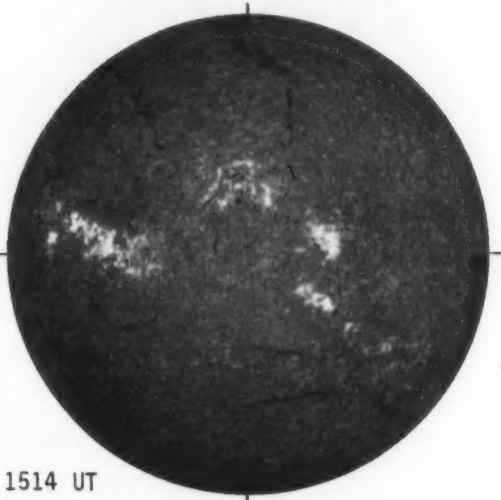
Delta Y=12.7
Delta X= 9.6



W

17.94 -
18.94 UT

SACRAMENTO PEAK H-ALPHA



E

1514 UT

Sp

BOULDER SUNSPOTS

Sp

SACRAMENTO PEAK CORONA (5303 Angstrom)

W

Sp

JANUARY 30, 1983 (P=-11.15, B_o=-5.86, L_o= 217.46)

1514 UT

Sp

Sp

Sp

J A N U A R Y 30, 1 9 8 3 (P=-11.15, B_o=-5.86, L_o= 217.46)

KITT PEAK MAGNETOGRAM

Np

Bright= +
Dark = -

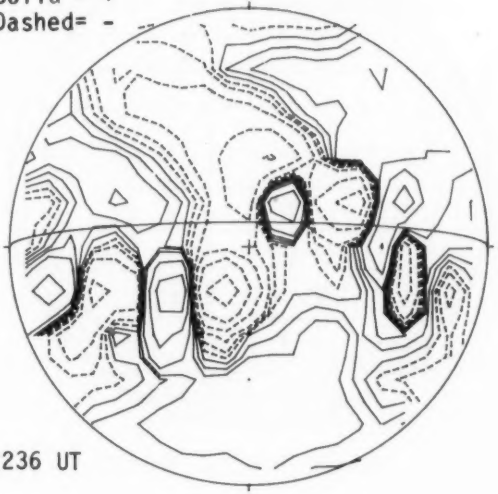
NO DATA

E

STANFORD MAGNETOGRAM

Np

Solid = +
Dashed= -



2236 UT

MT. WILSON MAGNETOGRAM

Np

Solid = +
Dotted= -

Delta Y=12.7
Delta X= 9.6

NO DATA

W

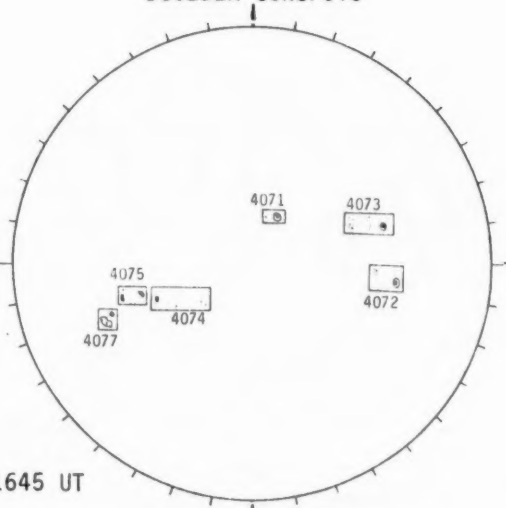
SACRAMENTO PEAK H-ALHPA

NO DATA

E

Sp

BOULDER SUNSPOTS



1645 UT

Sp

SACRAMENTO PEAK CORONA (5303 Angstrom)

NO DATA

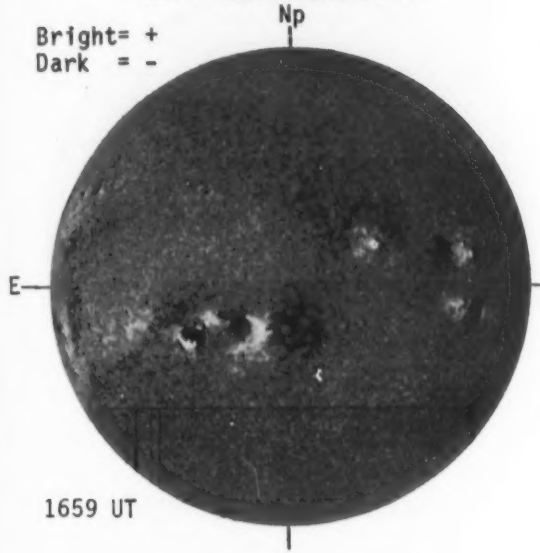
W

Sp

JANUARY 31, 1983 (P=-11.57, B_0=-5.93, L_0= 204.29)

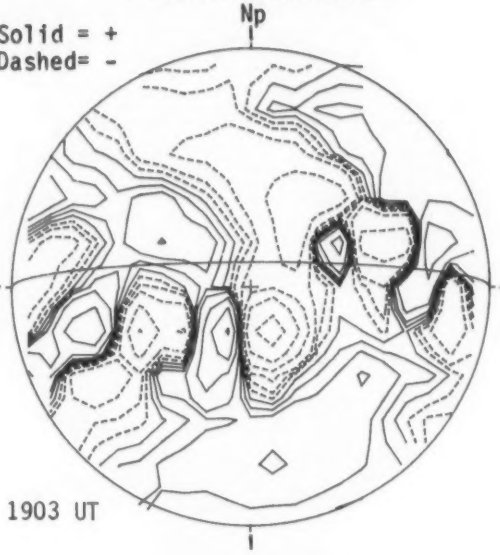
KITT PEAK MAGNETOGRAM

Bright= +
Dark = -



STANFORD MAGNETOGRAM

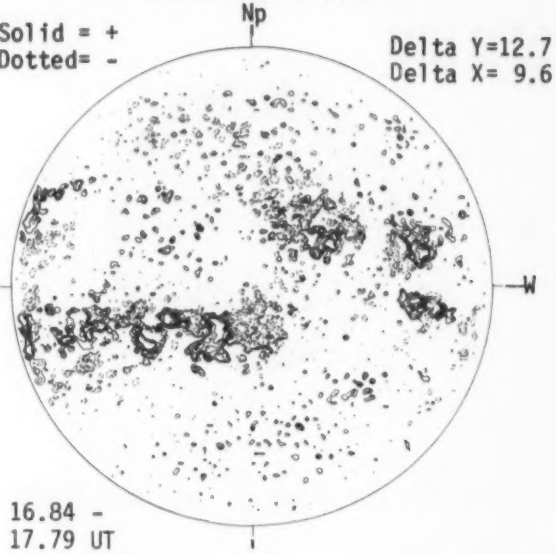
Solid = +
Dashed= -



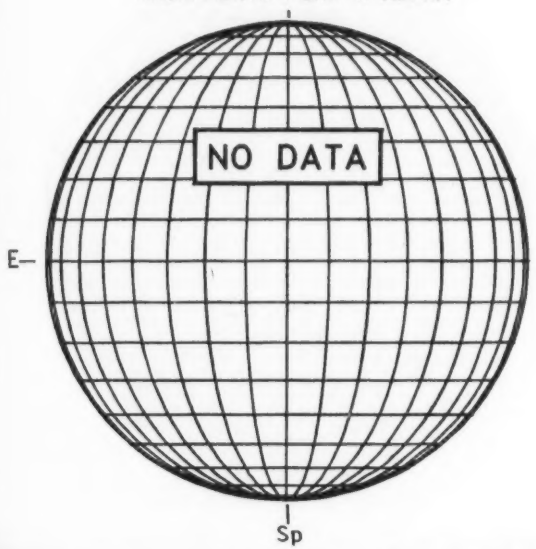
MT. WILSON MAGNETOGRAM

Solid = +
Dotted= -

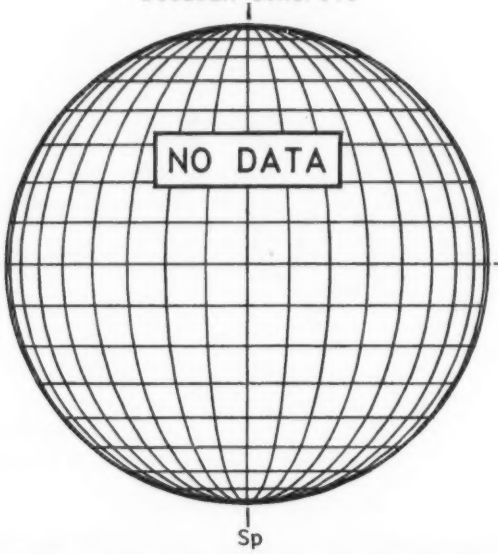
Delta Y=12.7
Delta X= 9.6



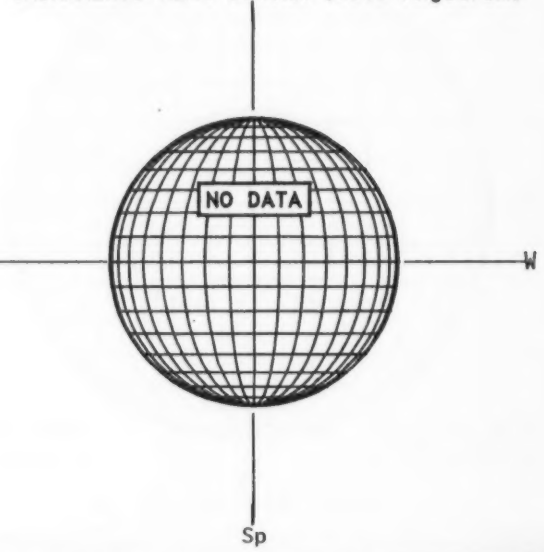
SACRAMENTO PEAK H-ALPHA



BOULDER SUNSPOTS



SACRAMENTO PEAK CORONA (5303 Angstrom)



REGIONS OF SUNSPOT ACTIVITY
(ORDERED BY CENTRAL MERIDIAN PASSAGE DATE)

JANUARY 1983

NOAA/ USAF Region	Mt Wilson Region	Sta	Observation Time Mo	Day	(UT)	Lat	CMD	CMP Mo	Day	Max H	Mag Class	Spot Class	Corrected Area (10-6 Hemi)	Spot Count	Long. Extent (Deg)	Qual
		LEAR	01	01	0120	S12	E01	01	1.1		A	AXX	10	2	2	3
4044		BOUL	01	01	1414	N08	E04	01	1.9		B	DAO	30	7	4	3
4044	23499	MWIL	01	01	1630	N07	E01	01	1.8	4	(B)					
4044		HOLL	01	01	1712	N08	E02	01	1.9		B	CRO	30	9	4	2
4044		PALE	01	01	2000	N08	W01	01	1.8		B	CRO	30	5	4	3
4044		LEAR	01	02	0030	N08	W03	01	1.8		B	CRO	30	4	4	3
4044		BOUL	01	02	1615	N07	W13	01	1.7		A	AXX		1		3
4044	23499	MWIL	01	02	1630	N07	W14	01	1.6	4	(AP)					
4044		PALE	01	02	2056	N08	W17	01	1.6		A	HRX	10	1	1	4
4044		MANI	01	03	0041	N08	W19	01	1.6			HRX	10	1	1	3
4044		LEAR	01	03	0100	N08	W18	01	1.7		A	HRX	10	1	1	3
4044		RAMY	01	03	1300	N07	W26	01	1.6		A	HAX	20	1	1	3
4044		BOUL	01	03	1528	N08	W28	01	1.5		A	HSX	30	1	1	2
4044	23499	MWIL	01	03	1645	N07	W27	01	1.7	4	(AP)					
4044		HOLL	01	03	1716	N07	W28	01	1.6		A	AXX		1		4
4044		PALE	01	03	1840	N07	W29	01	1.6		A	AXX		1		4
	23514	MWIL	01	06	1630	N08	W63	01	2.0	2	(AP)					
	23504	MWIL	01	02	1630	S24	W07	01	2.1	2	(AP)					
4045		BOUL	01	01	1414	N24	E12	01	2.5		A	AXX	10	1	1	3
4045	23500	MWIL	01	01	1630	N22	E09	01	2.4	3	(AF)					
4045		HOLL	01	01	1712	N24	E09	01	2.4		A	AXX		1		2
4045		PALE	01	01	2000	N24	E08	01	2.5		A	AXX		1		3
4045		LEAR	01	02	0030	N23	E05	01	2.4		A	AXX	10	3	2	3
4045		BOUL	01	02	1615	N22	W02	01	2.5		A	AXX		1		3
4045	23500	MWIL	01	02	1630	N23	W03	01	2.5	3	(AF)					
4045		PALE	01	02	2056	N24	W05	01	2.5		A	AXX		1		4
4045		MANI	01	03	0041	N24	W06	01	2.6			AXX	10	1		3
4045		LEAR	01	03	0100	N23	W07	01	2.5		A	AXX		1		3
4045		RAMY	01	03	1300	N23	W14	01	2.5		B	BXO	10	3	3	3
4045	23500	MWIL	01	03	1645	N23	W16	01	2.5	3	(B)					
4045		HOLL	01	03	1716	N23	W17	01	2.4		B	BXO	10	2	3	4
4045		PALE	01	03	1840	N23	W18	01	2.4		B	BXO	10	2	2	4
4045	23515	MWIL	01	06	1630	N23	W57	01	2.3	2	(B)					
0001	23497	MWIL	12	28	1700	N10	E71	01	3.0	2	(AF)					
0001		MANI	12	29	0028	N09	E63	01	2.8			AXX	10	2		3
0001		MANI	12	29	2336	N09	E50	01	2.7			AXX	10	3		3
	23501	MWIL	01	01	1630	N12	E19	01	3.1	3	(B)					
4041		RAMY	12	27	1355	N04	E87	01	3.1		A	HAX	60	1	4	3
4041		HOLL	12	27	1624	N06	E86	01	3.1		A	HHX	220	1	3	3
4041	23495	MWIL	12	27	1830	N05	E78	01	2.6	2	AP					
4041		PALE	12	27	2305	N06	E80	01	3.0		A	HHX	180	1	3	2
4041		LEAR	12	28	0031	N06	E80	01	3.0		B	CHO	240	2	5	3
4041		BOUL	12	28	1545	N08	E73	01	3.1		B	CAO	220	4	5	2
4041	23495	MWIL	12	28	1700	N06	E71	01	3.0	4	(AP)					
4041		HOLL	12	28	1857	N08	E72	01	3.2		B	CHO	300	3	7	3
4041		MANI	12	29	0028	N08	E69	01	3.2			CAO	270	3	4	3
4041		LEAR	12	29	0035	N08	E67	01	3.1		B	CHO	360	5	4	2
4041		RAMY	12	29	1255	N06	E61	01	3.1		B	CKO	280	7	5	3
4041		BOUL	12	29	1440	N07	E58	01	3.0		B	CSO	130	5	4	2
4041		HOLL	12	29	1555	N07	E58	01	3.0		B	CKO	400	6	4	4
4041		PALE	12	29	1930	N07	E57	01	3.1		B	CKO	280	6	4	3
4041		MANI	12	29	2336	N08	E56	01	3.2			DKO	260	5	4	3
4041		LEAR	12	30	0022	N07	E55	01	3.1		B	DSO	470	12	5	2
4041		RAMY	12	30	1254	N06	E49	01	3.2		B	CKO	360	6	4	2
4041		BOUL	12	30	1725	N05	E45	01	3.1		B	CSO	250	5	6	2
4041		PALE	12	30	1930	N05	E44	01	3.1		B	CSO	270	9	12	4
4041	23495	MWIL	12	30	2145	N06	E42	01	3.1	5	(AP)					
4041		MANI	12	30	2334	N07	E41	01	3.1			CHO	440	8	5	3
4041		LEAR	12	31	0012	N07	E42	01	3.2		B	CSO	380	7	4	2
4041		RAMY	12	31	1517	N06	E32	01	3.0		B	CHO	320	3	4	2
4041	23495	MWIL	12	31	1630	N06	E32	01	3.1	5	(AP)					
4041		BOUL	12	31	1855	N05	E32	01	3.2		B	CSO	210	4	3	2
4041		PALE	12	31	2000	N06	E30	01	3.1		B	CHO	280	2	4	2
4041		LEAR	01	01	0120	N06	E28	01	3.2		B	CSO	280	2	3	3

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NOAA/ USAF Region	Mt Wilson Region	Sta	Observation Mo	Day	Time (UT)	Lat	CMD	CMP Mo	Day	Max H	Mag Class	Spot Class	Corrected Area (10-6 Hemi)	Spot Count	Long. Extent (Deg)	Qual
4041		BOUL	01	01	1414	N08	E23	01	3.3		B	CHO	310	8	7	3
4041	23495	MWIL	01	01	1630	N06	E20	01	3.2	5	(BP)					
4041		HOLL	01	01	1712	N08	E22	01	3.4		B	CHO	290	7	5	2
4041		PALE	01	01	2000	N07	E19	01	3.3		B	CHO	220	5	6	3
4041		LEAR	01	02	0030	N08	E15	01	3.1		B	CSO	240	6	6	3
4041		BOUL	01	02	1615	N07	E05	01	3.1		A	HHX	300	1	3	3
4041	23495	MWIL	01	02	1630	N06	E05	01	3.1	6	(BP)					
4041		PALE	01	02	2056	N06	E03	01	3.1		A	HHX	260	1	3	4
4041		MANI	01	03	0041	N07	E01	01	3.1			HHX	320	1	3	3
4041		LEAR	01	03	0100	N07	E02	01	3.2		B	CSO	240	2	6	3
4041		RAMY	01	03	1300	N08	W03	01	3.3		B	CHO	300	12	10	3
4041		BOUL	01	03	1528	N09	W05	01	3.3		B	CSO	230	4	9	2
4041	23495	MWIL	01	03	1645	N07	W06	01	3.2	5	(BP)					
4041		HOLL	01	03	1716	N08	W06	01	3.3		B	CHO	300	7	10	4
4041		PALE	01	03	1840	N08	W06	01	3.3		B	CHO	310	5	9	4
4041		RAMY	01	04	1310	N06	W18	01	3.2		BG	CHO	230	4	6	3
4041	23495	MWIL	01	04	1600	N06	W22	01	3.0	5	(BP)					
4041		PALE	01	04	1945	N07	W22	01	3.2		A	HHX	230	1	3	2
4041		HOLL	01	04	2302	N07	W25	01	3.1		A	HHX	290	1	3	3
4041		LEAR	01	05	0102	N06	W26	01	3.1		A	HHX	250	1	4	3
4041		RAMY	01	05	1406	N05	W34	01	3.0		BG	CHO	200	4	3	2
4041	23495	MWIL	01	05	1630	N05	W36	01	3.0	6	(AP)					
4041		PALE	01	05	1805	N06	W36	01	3.1		A	HHX	260	1	3	3
4041		LEAR	01	06	0107	N05	W40	01	3.1		A	HHX	250	1	3	3
4041		RAMY	01	06	1415	N05	W46	01	3.2		A	CHO	260	4	5	3
4041	23495	MWIL	01	06	1630	N05	W48	01	3.1	6	(BP)					
4041		BOUL	01	06	2015	N06	W49	01	3.2		A	HSX	120	1	2	1
4041		HOLL	01	06	2154	N06	W51	01	3.1		B	CSO	300	4	3	2
4041		LEAR	01	07	0039	N07	W51	01	3.2		B	CHO	300	5	4	2
4041	23495	MWIL	01	07	1630	N05	W61	01	3.1	4	(BP)					
4041		LEAR	01	08	0100	N06	W66	01	3.1		B	CSO	250	2	5	4
4041		MANI	01	08	0129	N07	W67	01	3.0			CHO	270	3	4	3
4041		RAMY	01	08	1300	N06	W74	01	3.0		A	HAX	190	1	2	3
4041	23495	MWIL	01	08	1600	N05	W75	01	3.1	5	(AP)					
4041		HOLL	01	08	1615	N05	W75	01	3.1		A	HHX	220	1	3	3
4041		PALE	01	08	1945	N05	W78	01	3.0		A	HHX	220	1	3	3
4041		LEAR	01	09	0045	N06	W79	01	3.1		A	HSX	140	1	2	3
		HOLL	01	03	1716	S28	W03	01	3.5		A	AXX		1		4
	23505	MWIL	01	02	1630	N12	E12	01	3.6	2	(AF)					
4046		BOUL	01	01	1414	S16	E43	01	4.9		B	BXO	10	3	3	3
4046	23502	MWIL	01	01	1630	S15	E41	01	4.8	3	(BP)					
4046		HOLL	01	01	1712	S15	E41	01	4.8		B	BXO	10	5	3	2
4046		PALE	01	01	2000	S15	E40	01	4.9		B	BXO	20	6	3	3
4046		LEAR	01	02	0030	S16	E38	01	4.9		B	BXO	20	5	4	3
4046		BOUL	01	02	1615	S14	E27	01	4.7		B	BXO	20	7	4	3
4046	23502	MWIL	01	02	1630	S15	E28	01	4.8	3	(B)					
4046		PALE	01	02	2056	S15	E25	01	4.8		B	CRO	60	12	6	4
4046		MANI	01	03	0041	S15	E23	01	4.8			CRO	50	11	6	3
4046		LEAR	01	03	0100	S15	E24	01	4.9		B	DRO	70	19	7	3
4046		RAMY	01	03	1300	S15	E16	01	4.8		B	DAO	40	15	6	3
4046		BOUL	01	03	1528	S13	E13	01	4.6		B	DSO	70	10	5	2
4046	23502	MWIL	01	03	1645	S15	E14	01	4.8	4	(B)					
4046		HOLL	01	03	1716	S14	E13	01	4.7		B	BXO	100	23	7	4
4046		PALE	01	03	1840	S15	E13	01	4.8		B	CRO	110	24	7	4
4046		RAMY	01	04	1310	S15	E03	01	4.8		B	DAO	60	20	6	3
4046		BOUL	01	04	1600	S14	E01	01	4.7		B	DAO	80	13	7	2
4046	23502	MWIL	01	04	1600	S16	E01	01	4.7	5	(B)					
4046		PALE	01	04	1945	S15	W01	01	4.7		B	DRO	90	18	8	2
4046		HOLL	01	04	2302	S14	W03	01	4.7		B	DAI	150	18	8	3
4046		LEAR	01	05	0102	S15	W04	01	4.7		B	DAI	50	31	8	3
4046		RAMY	01	05	1406	S16	W13	01	4.6		B	DAO	210	36	10	2
4046	23502	MWIL	01	05	1630	S15	W13	01	4.7	5	(B)					
4046		PALE	01	05	1805	S16	W15	01	4.6		B	DAI	140	24	8	3
4046		LEAR	01	06	0107	S16	W18	01	4.7		B	EKI	310	34	11	3
4046		RAMY	01	06	1415	S17	W27	01	4.5		B	EAI	340	49	12	3
4046	23502	MWIL	01	06	1630	S17	W27	01	4.6	5	(B)					
4046		BOUL	01	06	2015	S15	W27	01	4.8		B	DAI	220	14	8	1
4046		HOLL	01	06	2154	S16	W30	01	4.6		B	EAO	400	43	11	2

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4046		LEAR	01 07 0039	S16 W31	01 4.7		B	DKI	520	44	10	2
4046	23502	MWIL	01 07 1630	S17 W42	01 4.5	4	(B)					
4046		LEAR	01 08 0100	S16 W46	01 4.6		B	EAI	370	29	12	4
4046		MANI	01 08 0129	S16 W46	01 4.6			EAI	530	24	10	3
4046		RAMY	01 08 1300	S16 W52	01 4.6		B	DAO	380	23	9	3
4046	23502	MWIL	01 08 1600	S17 W53	01 4.6	5	(B)					
4046		HOLL	01 08 1615	S16 W53	01 4.7		B	EKO	570	24	12	3
4046		PALE	01 08 1945	S17 W56	01 4.6		B	EKO	520	26	12	3
4046		LEAR	01 09 0045	S16 W58	01 4.6		B	DAO	430	27	10	3
4046		HOLL	01 09 1557	S16 W67	01 4.6		B	EKO	380	15	13	3
4046	23502	MWIL	01 09 1630	S17 W67	01 4.6	3	(B)					
4046		PALE	01 09 1840	S16 W69	01 4.5		B	EKO	350	16	12	3
4046		LEAR	01 10 0024	S16 W71	01 4.6		B	DAO	460	17	9	3
4046		RAMY	01 10 1420	S16 W78	01 4.7		B	EKO	450	8	11	3
4046	23502	MWIL	01 10 1630	S17 W80	01 4.6	3	(B)					
4046		LEAR	01 11 0006	S16 W84	01 4.6		B	DSO	90	7	9	3
0002	23507	MWIL	01 03 1645	S08 E27	01 5.7	2	(AP)					
0002		HOLL	01 03 1716	S08 E28	01 5.8		A	AXX		1		4
0002		PALE	01 03 1840	S08 E27	01 5.8		B	BXO	10	2	1	4
0002		RAMY	01 04 1310	S08 E15	01 5.7		A	AXX	10	1	1	3
0002	23507	MWIL	01 04 1600	S08 E14	01 5.7	4	(AP)					
0002		PALE	01 04 1945	S09 E12	01 5.7		A	AXX		1		2
0002		HOLL	01 04 2302	S08 E09	01 5.6		A	AXX		1		3
4050		LEAR	01 05 0102	S08 E08	01 5.6		A	AXX		1		3
4050		LEAR	01 07 0039	S10 W17	01 5.7		A	AXX		2	1	2
	23516	MWIL	01 06 1630	S21 W06	01 6.2	2	(AP)					
4047		LEAR	01 01 0120	S15 E68	01 6.2		A	AXX		1		3
4047		BOUL	01 01 1414	S16 E60	01 6.1		B	BXO	20	3	3	3
4047	23503	MWIL	01 01 1630	S16 E57	01 6.0	4	(AP)					
4047		HOLL	01 01 1712	S15 E58	01 6.1		B	CSO	10	4	3	2
4047		PALE	01 01 2000	S15 E56	01 6.1		A	AXX	10	1	1	3
4047		LEAR	01 02 0030	S16 E53	01 6.0		A	AXX		1		3
4047		RAMY	01 06 1415	S18 W03	01 6.4		B	BXO	20	3	3	3
4047	23517	MWIL	01 06 1630	S17 W04	01 6.4	2	(B)					
4047		HOLL	01 06 2154	S17 W09	01 6.2		A	AXX		2	2	2
4047	23517	MWIL	01 07 1630	S17 W18	01 6.3	2	(B)					
4047		LEAR	01 08 0100	S17 W23	01 6.3		B	BXO	10	3	5	4
4047		MANI	01 08 0129	S17 W23	01 6.3			BXO	10	3	6	3
4047	23517	MWIL	01 08 1600	S17 W34	01 6.1	3	(AP)					
4047		HOLL	01 08 1615	S17 W35	01 6.0		A	AXX	10	1		3
4047		PALE	01 08 1945	S17 W37	01 6.0		A	AXX		1		3
4047		HOLL	01 09 1557	S17 W48	01 6.0		A	AXX	10	1		3
4047	23517	MWIL	01 09 1630	S17 W48	01 6.0	3	(AP)					
4055		RAMY	01 06 1415	S12 E18	01 8.0		A	AXX	20	2	1	3
4055	23518	MWIL	01 06 1630	S12 E17	01 8.0	2	(AF)					
4055		HOLL	01 06 2154	S12 E13	01 7.9		A	AXX		2	2	2
4055		LEAR	01 07 0039	S09 E08	01 7.6		A	AXX		2		2
4055	23518	MWIL	01 07 1630	S12 E03	01 7.9	2	(AF)					
0003	23511	MWIL	01 05 1630	S12 E42	01 8.9	3	(AF)					
0003	23511	MWIL	01 06 1630	S13 E27	01 8.7	2	(AF)					
4049		RAMY	01 03 1300	S08 E73	01 9.0		A	HAX	30	1	1	3
4049		BOUL	01 03 1528	S08 E70	01 8.9		A	HSX	30	1	1	2
4049	23508	MWIL	01 03 1645	S09 E71	01 9.0	4	(BP)					
4049		HOLL	01 03 1716	S07 E69	01 8.9		B	CSO	50	2	2	4
4049		PALE	01 03 1840	S08 E68	01 8.9		A	HSX	50	1	1	4
4049	23508	MWIL	01 04 1600	S07 E57	01 8.9	5	(B)					
4049		BOUL	01 04 1600	S08 E55	01 8.8		A	HSX	30	1	1	2
4049		PALE	01 04 1945	S08 E55	01 8.9		A	HSX	30	1	1	2
4049		LEAR	01 05 0102	S07 E54	01 9.1		B	CSO	50	6	6	3
4049		RAMY	01 05 1406	S07 E43	01 8.8		B	CSO	220	2	2	2
4049	23508	MWIL	01 05 1630	S06 E43	01 8.9	5	(BP)					
4049		PALE	01 05 1805	S07 E41	01 8.8		A	HSX	30	1	2	3
4049		LEAR	01 06 0107	S08 E40	01 9.0		B	DSO	70	4	5	3
4049		RAMY	01 06 1415	S08 E31	01 8.9		A	HAX	30	2	2	3

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4049	23508	MWIL	01	06	1630	S07	E28	01	8.8	4	(AP)					
4049		BOUL	01	06	2015	S06	E15	01	8.0		A	AXX	10	2	2	1
4049		BOUL	01	06	2015	S06	E25	01	8.7		A	AXX	10	2	2	1
4049		HOLL	01	06	2154	S07	E27	01	8.9		A	AXX	10	3	2	2
4049		LEAR	01	07	0039	S08	E25	01	8.9		A	HSX	30	2	1	2
4049	23508	MWIL	01	07	1630	S06	E16	01	8.9	3	(AP)					
4049		LEAR	01	08	0100	S08	E12	01	8.9		B	BXO	10	5	5	4
4049		MANI	01	08	0129	S07	E10	01	8.8			BXO	10	3	4	3
4049		RAMY	01	08	1300	S06	E03	01	8.8		A	AXX	10	1	1	3
4049	23508	MWIL	01	08	1600	S06	E03	01	8.9	3	(AP)					
4049		HOLL	01	08	1615	S06	E02	01	8.8		A	AXX		1		3
4049		PALE	01	08	1945	S06	E00	01	8.8		A	AXX	10	2	2	3
4049		LEAR	01	09	0045	S07	W02	01	8.9		A	AXX	10	3	2	3
4049		HOLL	01	09	1557	S07	W12	01	8.8		A	AXX	10	3	2	3
4049	23508	MWIL	01	09	1630	S06	W12	01	8.8	3	(B)					
4049		PALE	01	09	1840	S08	W08	01	9.2		A	AXX		1		3
4049		LEAR	01	10	0024	S07	W16	01	8.8		B	BXO		3	3	3
		RAMY	01	10	1420	N05	W20	01	9.1		A	AXX	10	1	1	3
4054	23506	MWIL	01	02	1630	S16	E85	01	9.1	3	(AP)					
4054	23506	MWIL	01	03	1645	S18	E70	01	9.0	4	(AP)					
4054	23506	MWIL	01	04	1600	S17	E59	01	9.2	4	(BP)					
4054	23506	MWIL	01	05	1630	S16	E45	01	9.1	4	(AP)					
4054	23506	MWIL	01	06	1630	S17	E32	01	9.1	5	(AP)					
4054		BOUL	01	06	2015	S16	E28	01	9.0		A	HSX	50	1	2	1
4054		HOLL	01	06	2154	S17	E28	01	9.0		A	HSX	110	1	2	2
4054		LEAR	01	07	0039	S17	E28	01	9.2		A	HSX	110	1	1	2
4054	23506	MWIL	01	07	1630	S17	E19	01	9.1	4	(AP)					
4054		LEAR	01	08	0100	S17	E15	01	9.2		A	HSX	80	1	1	4
4054		MANI	01	08	0129	S17	E13	01	9.1			HSX	70	1	1	3
4054		RAMY	01	08	1300	S17	E08	01	9.2		A	HAX	80	2	2	3
4054	23506	MWIL	01	08	1600	S17	E07	01	9.2	5	(AP)					
4054		HOLL	01	08	1615	S17	E07	01	9.2		A	HSX	80	1	2	3
4054		PALE	01	08	1945	S17	E04	01	9.1		A	HSX	70	1	2	3
4054		LEAR	01	09	0045	S17	E02	01	9.2		B	CSO	80	4	3	3
4054		HOLL	01	09	1557	S17	W08	01	9.1		B	CAO	100	15	5	3
4054	23506	MWIL	01	09	1630	S17	W07	01	9.2	4	(BF)					
4054		PALE	01	09	1840	S17	W09	01	9.1		B	DAO	120	9	5	3
4054		LEAR	01	10	0024	S16	W13	01	9.0		B	DAI	120	16	6	3
4054		RAMY	01	10	1420	S17	W19	01	9.2		B	DAO	140	21	6	3
4054	23506	MWIL	01	10	1630	S17	W21	01	9.1	4	(BF)					
4054		LEAR	01	11	0006	S16	W26	01	9.0		B	DAI	100	11	6	3
4054		RAMY	01	11	1333	S16	W34	01	9.0		B	DKO	90	9	6	3
4054		BOUL	01	11	1545	S18	W32	01	9.2		B	CSO	70	3	8	2
4054	23506	MWIL	01	11	1600	S17	W34	01	9.1	3	(BF)					
4054		PALE	01	11	1910	S17	W37	01	9.0		B	DAO	60	4	6	2
4054		HOLL	01	11	1945	S15	W36	01	9.1		B	DAO	80	5	6	2
4054		LEAR	01	12	0032	S16	W40	01	9.0		B	CAO	90	8	7	3
4054		RAMY	01	12	1355	S16	W43	01	9.3		B	CAO	40	9	6	2
4054		BOUL	01	12	1610	S15	W45	01	9.3		A	HSX	60	2	1	2
4054	23506	MWIL	01	12	1645	S17	W45	01	9.3	4	(BP)					
4054		HOLL	01	12	1730	S15	W47	01	9.2		B	CAO	50	6	4	3
4054		MANI	01	12	2326	S16	W47	01	9.4			CRO	90	4	6	3
4054		LEAR	01	13	0045	S17	W50	01	9.2		A	HSX	50	2	2	3
4054		RAMY	01	13	1255	S18	W57	01	9.2		B	CRO	40	5	3	4
4054		HOLL	01	13	1622	S16	W58	01	9.3		A	HRX	20	3	1	4
4054	23506	MWIL	01	13	1635	S17	W58	01	9.3	4	(B)					
4054		BOUL	01	13	2030	S15	W59	01	9.4		A	HRX	20	1	1	2
4054		LEAR	01	14	0310	S17	W62	01	9.4		B	BXO	10	2	4	3
4054		RAMY	01	14	1340	S15	W71	01	9.2		A	AXX	30	2	1	3
4054		HOLL	01	14	1548	S17	W71	01	9.3		A	AXX		1		3
4054		BOUL	01	14	1600	S15	W71	01	9.3		A	AXX		1		3
4054	23506	MWIL	01	14	1634	S17	W70	01	9.4	3	(AP)					
4054		PALE	01	14	2020	S16	W73	01	9.3		A	AXX		1		3
4054		MANI	01	15	0028	S10	W81	01	8.9			AXX	120	1	2	3
	23523	MWIL	01	09	1630	N08	W05	01	9.3	2	(AF)					
4048		BOUL	01	02	1615	S19	E83	01	9.0		A	HHX	60	1	5	3
4048		PALE	01	02	2056	S17	E85	01	9.3		A	HHX	100	2	3	4

REGIONS OF SUNSPOT ACTIVITY
(ORDERED BY CENTRAL MERIDIAN PASSAGE DATE)

JANUARY 1983

NOAA/ USAF Region	Mt Wilson Region	Sta	Observation Time Mo	Day	(UT)	Lat	CMD	CMP Mo	Day	Max H	Mag Class	Spot Class	Corrected Area (10-6 Hemi)	Spot Count	Long. Extent (Deg)	Qual
4048		MANI	01	03	0041	S18	E83	01	9.4			HSX	440	1	2	3
4048		LEAR	01	03	0100	S16	E79	01	9.0		A	HSX	60	1	1	3
4048		RAMY	01	03	1300	S17	E74	01	9.2		A	HAX	130	1	2	3
4048		BOUL	01	03	1528	S17	E69	01	8.9		A	HSX	90	1	1	2
4048		HOLL	01	03	1716	S17	E69	01	9.0		A	HSX	120	1	2	4
4048		PALE	01	03	1840	S17	E69	01	9.0		A	HSX	110	1	2	4
4048	23509	MWIL	01	04	1600	S12	E63	01	9.4	4	(B)					
4048		BOUL	01	04	1600	S15	E60	01	9.2		B	DSO	110	3	8	2
4048		PALE	01	04	1945	S15	E60	01	9.4		B	DSO	90	4	8	2
4048		HOLL	01	04	2302	S13	E55	01	9.1		B	DAO	200	8	8	3
4048		HOLL	01	04	2302	S17	E55	01	9.1		B	CAO	50	4	6	3
4048		MANI	01	04	2347	S13	E57	01	9.3			DSO	70	8	6	2
4048		LEAR	01	05	0102	S14	E57	01	9.4		B	DSO	240	9	7	3
4048		RAMY	01	05	1406	S15	E49	01	9.3		B	DAO	30	18	8	2
4048	23509	MWIL	01	05	1630	S12	E48	01	9.3	4	(B)					
4048		PALE	01	05	1805	S13	E47	01	9.3		B	DAO	200	10	8	3
4048		LEAR	01	06	0107	S14	E44	01	9.4		B	DAO	210	12	7	3
4048		RAMY	01	06	1415	S16	E35	01	9.3		BG	DAO	230	35	9	3
4048	23509	MWIL	01	06	1630	S13	E35	01	9.3	4	(BY)					
4048		BOUL	01	06	2015	S12	E31	01	9.2		BG	DAI	160	12	8	1
4048		HOLL	01	06	2154	S13	E34	01	9.5		B	DAO	130	23	9	2
4048		LEAR	01	07	0039	S13	E31	01	9.4		B	DAO	230	16	8	2
4048	23509	MWIL	01	07	1630	S13	E22	01	9.3	4	(B)					
4048		LEAR	01	08	0100	S13	E17	01	9.3		BG	DAI	250	27	10	4
4048		MANI	01	08	0129	S13	E17	01	9.3			DKO	190	17	8	3
4048		RAMY	01	08	1300	S13	E10	01	9.3		B	CAO	100	23	9	3
4048	23509	MWIL	01	08	1600	S12	E08	01	9.3	5	(BY)					
4048		HOLL	01	08	1615	S13	E08	01	9.3		B	DSO	180	20	10	3
4048		PALE	01	08	1945	S13	E06	01	9.3		B	EAO	200	28	11	3
4048		LEAR	01	09	0045	S13	E04	01	9.3		B	DAO	180	25	10	3
4048		HOLL	01	09	1557	S12	W06	01	9.2		B	CSO	160	16	9	3
4048	23509	MWIL	01	09	1630	S13	W05	01	9.3	4	(B)					
4048		PALE	01	09	1840	S12	W08	01	9.2		B	DAO	170	19	9	3
4048		LEAR	01	10	0024	S13	W09	01	9.3		B	CAO	110	24	9	3
4048		RAMY	01	10	1420	S13	W16	01	9.4		B	DAO	170	28	10	3
4048	23509	MWIL	01	10	1630	S13	W18	01	9.3	4	(B)					
4048		LEAR	01	11	0006	S13	W23	01	9.3		B	CSO	110	24	9	3
4048		RAMY	01	11	1333	S13	W30	01	9.3		B	CKO	90	27	9	3
4048		BOUL	01	11	1545	S14	W27	01	9.6		B	CSI	70	9	8	2
4048	23509	MWIL	01	11	1600	S13	W34	01	9.1	4	(B)					
4048		PALE	01	11	1910	S14	W32	01	9.4		B	CSO	110	16	9	2
4048		HOLL	01	11	1945	S12	W34	01	9.3		B	CAO	150	15	8	2
4048		LEAR	01	12	0032	S13	W35	01	9.4		B	DSO	100	7	8	3
4048		RAMY	01	12	1355	S11	W48	01	9.0		B	CSO	60	3	2	2
4048		BOUL	01	12	1610	S09	W46	01	9.2		A	HSX	60	1	1	2
4048	23509	MWIL	01	12	1645	S12	W48	01	9.1	4	(AP)					
4048		HOLL	01	12	1730	S10	W46	01	9.3		B	CSO	90	4	6	3
4048		MANI	01	12	2326	S13	W49	01	9.3			CSO	90	2	4	3
4048		LEAR	01	13	0045	S12	W53	01	9.0		A	HSX	100	3	2	3
4048		RAMY	01	13	1255	S11	W59	01	9.1		B	CSO	80	2	2	4
4048		HOLL	01	13	1622	S11	W62	01	9.0		A	HSX	100	1	2	4
4048	23509	MWIL	01	13	1635	S12	W61	01	9.1	5	(AP)					
4048		BOUL	01	13	2030	S10	W63	01	9.1		A	HSX	40	1	1	2
4048		LEAR	01	14	0310	S12	W67	01	9.1		A	HSX	50	1	1	3
4048		RAMY	01	14	1340	S11	W75	01	8.9		A	HAX	60	1	1	3
4048		HOLL	01	14	1548	S12	W74	01	9.1		A	HSX	50	1	2	3
4048		BOUL	01	14	1600	S10	W77	01	8.9		A	HSX	30	2	1	3
4048	23509	MWIL	01	14	1634	S12	W73	01	9.2	4	(AP)					
4048		PALE	01	14	2020	S12	W77	01	9.0		A	HSX	40	1	2	3
4048		MANI	01	15	0028	S15	W75	01	9.3			HSX	10	1		3
4048		LEAR	01	15	0105	S12	W79	01	9.1		A	HSX	20	1	1	3
		LEAR	01	11	0006	S33	W20	01	9.4		B	BXO		3	3	3
0004		HOLL	01	09	1557	N16	W03	01	9.4		A	AXX		1		3
0004	23524	MWIL	01	09	1630	N15	W03	01	9.5	2	(AP)					
0005	23525	MWIL	01	09	1630	N08	W00	01	9.7	2	(AP)					
0005	23525	MWIL	01	10	1630	N08	W08	01	10.1	2	(AF)					
		BOUL	01	12	1610	N17	W36	01	9.9		A	AXX		1		2

REGIONS OF SUNSPOT ACTIVITY
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JANUARY 1983

NOAA/ USAF Region	Mt Wilson Region	Sta	Observation Mo	Day	Time (UT)	Lat	CMD	CMP Mo	Day	Max H	Mag Class	Spot Class	Corrected Area (10-6 Hemi)	Spot Count	Long. Extent (Deg)	Qual
4056		LEAR	01	07	0039	N20	E38	01	9.9		A	AXX	10	2	2	2
4056	23520	MWIL	01	08	1600	N23	E19	01	10.1	3	(AP)					
4056		HOLL	01	08	1615	N23	E19	01	10.1		A	AXX		1		3
4056		LEAR	01	09	0045	N22	E13	01	10.0		B	BXO	10	3	3	3
4051	23510	MWIL	01	04	1600	N12	E75	01	10.3	2	(AF)					
4051		HOLL	01	04	2302	N11	E71	01	10.3		A	AXX		1		3
4051		LEAR	01	05	0102	N12	E70	01	10.3		B	BXO	10	3	3	3
4051		RAMY	01	05	1406	N11	E62	01	10.3		A	AXX	10	1	1	2
4051	23510	MWIL	01	05	1630	N11	E61	01	10.3	3	(AF)					
4051		PALE	01	05	1805	N11	E60	01	10.3		A	AXX	10	2	1	3
4051		LEAR	01	06	0107	N11	E56	01	10.3		B	BXO		2	3	3
4051		RAMY	01	06	1415	N09	E49	01	10.3		A	AXX	10	2	2	3
4051	23510	MWIL	01	06	1630	N09	E43	01	9.9	3	(BP)					
4051	23510	MWIL	01	07	1630	N10	E34	01	10.2	2	(AP)					
4051		LEAR	01	08	0100	N09	E28	01	10.1		A	AXX	10	2	2	4
4051		MANI	01	08	0129	N10	E28	01	10.2			AXX		1		3
4051		RAMY	01	08	1300	N08	E23	01	10.3		A	AXX	10	1	1	3
4051	23510	MWIL	01	08	1600	N09	E22	01	10.3	4	(AP)					
4051		HOLL	01	08	1615	N09	E21	01	10.3		A	AXX		1		3
4051		PALE	01	08	1945	N10	E19	01	10.3		A	AXX	10	2	1	3
4051		RAMY	01	10	1420	N09	W07	01	10.1		A	AXX	10	2	1	3
4052		RAMY	01	05	1406	S07	E68	01	10.7		A	AXX	10	1	1	2
4052	23512	MWIL	01	05	1630	S07	E66	01	10.6	3	(AP)					
4052		PALE	01	05	1805	S07	E64	01	10.6		A	HRX	20	1	1	3
4052		LEAR	01	06	0107	S08	E62	01	10.7		B	CSO	30	5	4	3
4052		RAMY	01	06	1415	S08	E53	01	10.6		A	HSX	20	3	1	3
4052	23512	MWIL	01	06	1630	S08	E55	01	10.8	4	(B)					
4052		BOUL	01	06	2015	S08	E48	01	10.4		A	HSX	30	1	1	1
4052		HOLL	01	06	2154	S09	E50	01	10.7		B	CSO	20	3	4	2
4052		LEAR	01	07	0039	S08	E48	01	10.6		B	CSO	40	3	6	2
4052	23512	MWIL	01	07	1630	S07	E37	01	10.5	4	(AP)					
4052		LEAR	01	08	0100	S07	E31	01	10.4		B	CSO	30	2	3	4
4052		MANI	01	08	0129	S08	E32	01	10.5			CSO	20	3	2	3
4052		RAMY	01	08	1300	S07	E23	01	10.3		B	CAO	20	3	2	3
4052	23512	MWIL	01	08	1600	S07	E23	01	10.4	5	(AP)					
4052		HOLL	01	08	1615	S07	E22	01	10.3		B	BXO	20	3	3	3
4052		PALE	01	08	1945	S07	E20	01	10.3		B	CRO	20	3	2	3
4052		LEAR	01	09	0045	S08	E18	01	10.4		B	CRO	30	4	4	3
4052		HOLL	01	09	1557	S07	E09	01	10.3		A	AXX	20	2	2	3
4052	23512	MWIL	01	09	1630	S07	E08	01	10.3	5	(BP)					
4052		PALE	01	09	1840	S07	E07	01	10.3		B	CRO	20	3	3	3
4052		LEAR	01	10	0024	S07	E03	01	10.2		B	CXO	30	5	4	3
4052		RAMY	01	10	1420	S06	W04	01	10.3		B	CAO	20	3	3	3
4052	23512	MWIL	01	10	1630	S06	W06	01	10.2	4	(BP)					
4052		LEAR	01	11	0006	S06	W09	01	10.3		B	CRO	20	6	6	3
4052		RAMY	01	11	1333	S06	W18	01	10.2		B	DAO	40	9	4	3
4052		BOUL	01	11	1545	S07	W18	01	10.3		A	HSX	10	3	2	2
4052	23512	MWIL	01	11	1600	S05	W20	01	10.2	3	(AP)					
4052		PALE	01	11	1910	S06	W21	01	10.2		B	CAO	40	6	3	2
4052		HOLL	01	11	1945	S06	W20	01	10.3		B	CSO	50	8	6	2
4052		LEAR	01	12	0032	S06	W25	01	10.1		B	CSO	40	6	3	3
4052		RAMY	01	12	1355	S05	W32	01	10.2		B	BXO	20	10	4	2
4052		BOUL	01	12	1610	S04	W32	01	10.3		B	CRO	30	4	4	2
4052	23512	MWIL	01	12	1645	S06	W33	01	10.2	4	(B)					
4052		HOLL	01	12	1730	S05	W35	01	10.1		B	DSO	30	10	6	3
4052		MANI	01	12	2326	S06	W35	01	10.4			DRO	60	8	6	3
4052		LEAR	01	13	0045	S06	W38	01	10.2		B	DSO	70	7	5	3
4052		RAMY	01	13	1255	S05	W46	01	10.1		B	DAO	60	9	4	4
4052		HOLL	01	13	1622	S04	W48	01	10.1		A	HSX	60	2	3	4
4052	23512	MWIL	01	13	1635	S05	W48	01	10.1	4	(AP)					
4052		BOUL	01	13	2030	S04	W45	01	10.5		A	HSX	30	1	1	2
4052		LEAR	01	14	0310	S06	W54	01	10.1		A	AXX	20	3	2	3
4052		RAMY	01	14	1340	S04	W61	01	10.0		A	AXX	20	3	2	3
4052		HOLL	01	14	1548	S05	W62	01	10.0		A	AXX	20	4	2	3
4052		BOUL	01	14	1600	S04	W62	01	10.0		A	HSX	60	3	2	3
4052	23512	MWIL	01	14	1634	S05	W62	01	10.1	3	(AP)					
4052		PALE	01	14	2020	S05	W65	01	10.0		B	BXO	30	2	3	3
4052		MANI	01	15	0028	S05	W66	01	10.1			CRO	50	3	4	3
4052		LEAR	01	15	0105	S06	W67	01	10.0		A	AXX	10	2	1	3

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4052		RAMY	01	15	1640	S05 W79	01	9.8		B	CAO	20	2	3	2
4052		MANI	01	16	0305	S05 W82	01	10.0			AXX	20	1		2
	23527	MWIL	01	10	1630	N12 W02	01	10.5	2	(AF)					
	23519	MWIL	01	06	1630	N13 E53	01	10.7	3	(AP)					
	23526	MWIL	01	09	1630	S03 E14	01	10.7	3	(AP)					
0006		RAMY	01	10	1420	S13 E04	01	10.9		A	AXX	10	1	1	3
0006		LEAR	01	11	0006	S13 W02	01	10.9		B	BXO		5	4	3
0007		LEAR	01	12	0032	S08 W12	01	11.1		A	AXX	10	3	2	3
0007	23532	MWIL	01	12	1645	S06 W22	01	11.1	2	(AF)					
		MANI	01	08	0129	S10 E45	01	11.4			BXO	10	4	4	3
4053		RAMY	01	05	1406	S09 E84	01	11.9		A	HHX	60	1	8	2
4053	23513	MWIL	01	05	1630	S08 E82	01	11.8	2	(AF)					
4053		PALE	01	05	1805	S08 E79	01	11.7		A	HSX	40	1	2	3
4053		LEAR	01	06	0107	S08 E77	01	11.8		A	HSX	70	1	2	3
4053		RAMY	01	06	1415	S09 E72	01	12.0		A	HKX	100	1	3	3
4053	23513	MWIL	01	06	1630	S08 E69	01	11.9	4	(BF)					
4053		BOUL	01	06	2015	S09 E67	01	11.9		A	HSX	40	1	2	1
4053		HOLL	01	06	2154	S08 E67	01	11.9		A	HSX	50	1	2	2
4053		LEAR	01	07	0039	S08 E64	01	11.8		A	CSO	40	3	6	2
4053	23513	MWIL	01	07	1630	S08 E55	01	11.8	4	(BF)					
4053		LEAR	01	08	0100	S09 E47	01	11.6		B	CSO	100	7	9	4
4053		MANI	01	08	0129	S10 E50	01	11.8			HSX	80	1	2	3
4053		RAMY	01	08	1300	S09 E39	01	11.5		B	EAO	130	5	11	3
4053	23513	MWIL	01	08	1600	S08 E38	01	11.5	5	(B)					
4053		HOLL	01	08	1615	S08 E38	01	11.5		B	DSO	130	12	10	3
4053		PALE	01	08	1945	S09 E35	01	11.5		B	DSO	120	9	10	3
4053		LEAR	01	09	0045	S09 E32	01	11.4		B	DSO	130	10	10	3
4053		HOLL	01	09	1557	S08 E24	01	11.5		B	CSO	130	11	10	3
4053	23513	MWIL	01	09	1630	S08 E24	01	11.5	5	(B)					
4053		PALE	01	09	1840	S08 E26	01	11.7		B	DSO	90	10	10	3
4053		LEAR	01	10	0024	S09 E19	01	11.4		B	CSO	100	10	11	3
4053		RAMY	01	10	1420	S09 E12	01	11.5		B	DSO	100	7	10	3
4053	23513	MWIL	01	10	1630	S08 E11	01	11.5	5	(BF)					
4053		LEAR	01	11	0006	S08 E06	01	11.5		B	CSO	80	10	11	3
4053		RAMY	01	11	1333	S08 W01	01	11.5		B	DKO	90	6	9	3
4053		BOUL	01	11	1545	S09 W01	01	11.6		B	CSO	50	2	8	2
4053	23513	MWIL	01	11	1600	S09 W02	01	11.5	4	(BF)					
4053		PALE	01	11	1910	S09 W03	01	11.6		B	CSO	70	3	9	2
4053		HOLL	01	11	1945	S08 W05	01	11.4		B	CSO	90	5	9	2
4053		LEAR	01	12	0032	S08 W08	01	11.4		B	CSO	90	4	9	3
4053		RAMY	01	12	1355	S09 W12	01	11.7		B	CSO	70	9	4	2
4053		BOUL	01	12	1610	S07 W13	01	11.7		B	DSI	80	10	4	2
4053	23513	MWIL	01	12	1645	S09 W13	01	11.7	4	(BF)					
4053		HOLL	01	12	1730	S09 W12	01	11.8		B	DSO	120	10	7	3
4053		MANI	01	12	2326	S09 W18	01	11.6			DAO	100	9	5	3
4053		LEAR	01	13	0045	S09 W19	01	11.6		B	DSO	150	12	5	3
4053		RAMY	01	13	1255	S08 W25	01	11.7		B	DAO	90	22	5	4
4053		HOLL	01	13	1622	S08 W27	01	11.7		B	DSO	80	9	4	4
4053		HOLL	01	13	1622	S08 W27	01	11.7		B	DSO	760	9	4	4
4053	23513	MWIL	01	13	1635	S08 W26	01	11.7	5	(BY)					
4053		BOUL	01	13	2030	S07 W27	01	11.8		B	CSO	60	4	3	2
4053		LEAR	01	14	0310	S08 W31	01	11.8		B	CSO	60	7	7	3
4053		RAMY	01	14	1340	S07 W39	01	11.6		B	CSO	50	5	3	3
4053		HOLL	01	14	1548	S09 W39	01	11.7		B	CSO	60	7	3	3
4053		BOUL	01	14	1600	S08 W38	01	11.8		B	CSI	60	8	3	3
4053	23513	MWIL	01	14	1634	S08 W39	01	11.8	3	(BF)					
4053		PALE	01	14	2020	S09 W42	01	11.7		B	CSO	60	6	3	3
4053		MANI	01	15	0028	S08 W43	01	11.8			DAO	110	8	7	3
4053		LEAR	01	15	0105	S08 W43	01	11.8		B	CAO	70	9	5	3
4053		RAMY	01	15	1640	S09 W53	01	11.7		B	DAO	70	4	3	2
4053	23513	MWIL	01	15	1649	S08 W53	01	11.7	3	(B)					
4053		PALE	01	15	1930	S09 W55	01	11.7		B	CSO	60	5	3	3
4053		LEAR	01	16	0006	S09 W57	01	11.7		A	HSX	60	6	2	3
4053		MANI	01	16	0305	S08 W59	01	11.7			DSO	80	4	3	2

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NOAA/ USAF Region	Mt Wilson Region	Sta	Observation Time Mo	Day	(UT)	Lat	CMD	CMP Mo	Day	Max H	Mag Class	Spot Class	Corrected Area (10-6 Hemi)	Spot Count	Long. Extent (Deg)	Qual
4053		RAMY	01	16	1345	S08	W65	01	11.7		B	CAO	100	3	4	3
4053		HOLL	01	16	1557	S09	W67	01	11.6		A	HSX	20	2	2	4
4053	23513	MWIL	01	16	1745	S09	W68	01	11.6	3	(AP)					
4053		PALE	01	16	1825	S09	W68	01	11.7		B	CSO	40	3	2	3
4053		LEAR	01	17	0010	S08	W71	01	11.7		A	HSX	30	3	2	3
4053		RAMY	01	17	1427	S08	W82	01	11.5		A	HKX	60	1	3	2
4053	23513	MWIL	01	17	1600	S09	W82	01	11.5	2	AP					
4053		PALE	01	17	1930	S09	W83	01	11.6		A	HSX	20	1	1	4
0008	23528	MWIL	01	10	1630	S13	E12	01	11.6	2	(AP)					
0008		LEAR	01	12	0032	S15	W06	01	11.6		A	AXX		1		3
	23521	MWIL	01	08	1600	S03	E48	01	12.3	3	(AF)					
	23529	MWIL	01	10	1630	S04	E24	01	12.5	2	(AF)					
0009		LEAR	01	08	0100	N22	E63	01	12.9		A	AXX		1		4
0009	23522	MWIL	01	08	1600	N23	E56	01	13.0	3	(AP)					
0009		HOLL	01	08	1615	N22	E56	01	13.0		A	AXX		1		3
0009	23522	MWIL	01	09	1630	N23	E41	01	12.8	3	(AF)					
4059		RAMY	01	11	1333	N15	E32	01	14.0		B	DAO	30	6	6	3
4059		BOUL	01	11	1545	N15	E27	01	13.7		B	CSO	20	3	4	2
4059	23531	MWIL	01	11	1600	N14	E30	01	13.9	2	(B)					
4059		HOLL	01	11	1945	N15	E27	01	13.9		B	CSO	30	5	4	2
4059		LEAR	01	12	0032	N14	E24	01	13.8		B	CSO	30	7	5	3
4059		RAMY	01	12	1355	N14	E17	01	13.9		B	BXO	30	13	4	2
4059		BOUL	01	12	1610	N16	E17	01	14.0		B	BXO	10	4	4	2
4059	23531	MWIL	01	12	1645	N15	E15	01	13.8	3	(BP)					
4059		HOLL	01	12	1730	N15	E15	01	13.9		B	DAO	40	4	5	3
4059		MANI	01	12	2326	N15	E13	01	14.0			CRO	30	7	4	3
4059		LEAR	01	13	0045	N14	E11	01	13.9		B	CAO	30	4	4	3
4059		RAMY	01	13	1255	N15	E02	01	13.7		B	BXO	10	3	2	4
4059		HOLL	01	13	1622	N14	W02	01	13.5		A	AXX	10	2	1	4
4059	23531	MWIL	01	13	1635	N15	W00	01	13.7	3	(AP)					
4059		LEAR	01	14	0310	N13	W07	01	13.6		A	AXX	10	2	2	3
4059	23531	MWIL	01	14	1634	N15	W10	01	13.9	2	X					
4059		LEAR	01	15	0105	N15	W15	01	13.9		A	AXX	10	3	2	3
4058		RAMY	01	10	1420	S18	E84	01	17.0		A	HSX	100	1	2	3
4058	23530	MWIL	01	10	1630	S17	E80	01	16.8	2	(AP)					
4058		LEAR	01	11	0006	S17	E77	01	16.9		B	DSO	160	4	5	3
4058		RAMY	01	11	1333	S18	E70	01	16.9		B	CHO	190	5	6	3
4058		BOUL	01	11	1545	S13	E69	01	16.9		A	HSX	90	1	2	2
4058	23530	MWIL	01	11	1600	S17	E70	01	17.0	3	(BP)					
4058		PALE	01	11	1910	S18	E68	01	17.0		A	HSX	100	1	2	2
4058		HOLL	01	11	1945	S15	E68	01	17.0		B	CSO	170	5	6	2
4058		LEAR	01	12	0032	S17	E66	01	17.0		B	CSO	130	4	5	3
4058		RAMY	01	12	1355	S18	E56	01	16.8		A	HSX	90	2	2	2
4058		BOUL	01	12	1610	S16	E52	01	16.6		A	HSX	100	1	2	2
4058	23530	MWIL	01	12	1645	S17	E56	01	17.0	5	(BP)					
4058		HOLL	01	12	1730	S15	E55	01	16.9		B	CAO	170	3	4	3
4058		MANI	01	12	2326	S18	E53	01	17.0			CSO	110	2	5	3
4058		LEAR	01	13	0045	S18	E52	01	17.0		A	HSX	120	1	2	3
4058		RAMY	01	13	1255	S18	E45	01	17.0		A	HSX	150	1	2	4
4058		HOLL	01	13	1622	S16	E42	01	16.9		A	HSX	120	1	2	4
4058	23530	MWIL	01	13	1635	S17	E42	01	16.9	5	(AP)					
4058		BOUL	01	13	2030	S16	E40	01	16.9		A	HSX	80	1	2	2
4058		LEAR	01	14	0310	S17	E37	01	16.9		A	HSX	110	1	2	3
4058		RAMY	01	14	1340	S17	E31	01	16.9		A	HSX	90	1	2	3
4058		HOLL	01	14	1548	S17	E29	01	16.9		A	HSX	120	1	2	3
4058		BOUL	01	14	1600	S18	E28	01	16.8		A	HSX	180	1	2	3
4058	23530	MWIL	01	14	1634	S17	E31	01	17.0	6	(AP)					
4058		PALE	01	14	2020	S18	E27	01	16.9		A	HSX	70	1	2	3
4058		MANI	01	15	0028	S18	E24	01	16.8			HSX	90	1	2	3
4058		LEAR	01	15	0105	S17	E25	01	16.9		A	HSX	100	1	2	3
4058		RAMY	01	15	1640	S18	E17	01	17.0		A	HSX	120	1	2	2
4058	23530	MWIL	01	15	1649	S17	E17	01	17.0	6	(AP)					
4058		PALE	01	15	1930	S17	E15	01	17.0		A	HSX	60	1	2	3
4058		LEAR	01	16	0006	S14	E14	01	17.1		B	CSO	130	3	6	3
4058		MANI	01	16	0305	S18	E10	01	16.9			HSX	120	1	2	2

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4058		RAMY	01	16	1345	S17	E06	01	17.0		B	CAO	80	6	4	3
4058		HOLL	01	16	1557	S18	E05	01	17.0		B	CSO	140	2	4	4
4058	23530	MWIL	01	16	1745	S18	E03	01	17.0	5	(AP)					
4058		PALE	01	16	1825	S18	E04	01	17.1		B	CSO	110	5	3	3
4058		LEAR	01	17	0010	S16	E01	01	17.1		B	CSO	120	7	6	3
4058		RAMY	01	17	1427	S18	W09	01	16.9		A	HAX	120	2	2	2
4058	23530	MWIL	01	17	1600	S18	W09	01	17.0	4	(AP)					
4058		BOUL	01	17	1645	S18	W10	01	16.9		A	HSX	60	2	1	2
4058		PALE	01	17	1930	S18	W11	01	17.0		A	HSX	100	2	2	4
4058		MANI	01	18	0000	S18	W13	01	17.0			HSX	110	2	2	3
4058		LEAR	01	18	0048	S19	W13	01	17.0		A	HSX	120	2	2	2
4058		RAMY	01	18	1536	S17	W21	01	17.1		B	CSO	90	8	5	1
4058	23530	MWIL	01	18	1630	S18	W23	01	16.9	4	(AP)					
4058		PALE	01	18	1919	S18	W24	01	17.0		A	HAX	110	2	2	4
4058		HOLL	01	18	2024	S19	W24	01	17.0		A	HSX	100	4	2	3
4058		LEAR	01	19	0057	S20	W28	01	16.9		B	CSO	150	6	3	2
4058		MANI	01	19	0222	S19	W28	01	17.0			CSO	120	6	2	2
4058		BOUL	01	19	1530	S16	W33	01	17.1		A	HSX	100	2	2	2
4058	23530	MWIL	01	19	1615	S18	W35	01	17.0	4	(AP)					
4058		PALE	01	19	2015	S17	W38	01	17.0		A	HSX	70	2	2	2
4058		HOLL	01	19	2022	S18	W38	01	17.0		A	HSX	150	3	2	3
4058		MANI	01	20	0005	S18	W40	01	17.0			HSX	120	2	2	3
4058		LEAR	01	20	0053	S18	W39	01	17.1		A	HAX	80	3	2	3
4058		RAMY	01	20	1250	S17	W55	01	16.4		B	CAO	80	3	4	3
4058		BOUL	01	20	1600	S16	W49	01	16.9		A	HSX	60	2	2	2
4058	23530	MWIL	01	20	1630	S18	W48	01	17.0	4	(AP)					
4058		MANI	01	21	0001	S17	W53	01	17.0		A	HSX	140	2	2	3
4058		LEAR	01	21	0001	S18	W53	01	17.0		A	HAX	60	2	2	2
4058		RAMY	01	21	1310	S17	W61	01	16.9		A	HAX	130	2	2	3
4058	23530	MWIL	01	21	1600	S18	W62	01	16.9	4	AP					
4058		PALE	01	21	2000	S18	W64	01	17.0		A	HSX	90	2	2	3
4058		LEAR	01	22	0005	S17	W66	01	17.0		A	HSX	70	2	2	3
4058		RAMY	01	22	1305	S17	W75	01	16.8		A	HAX	130	3	2	3
4058		HOLL	01	22	1542	S18	W75	01	16.9		A	HSX	60	2	2	3
4058		PALE	01	22	1835	S18	W78	01	16.8		A	HSX	50	2	2	2
4058		LEAR	01	23	0014	S17	W79	01	17.0		A	HSX	40	2	2	2
0010		PALE	01	15	1930	S14	E18	01	17.2		A	AXX		1		3
0010		PALE	01	16	1825	S14	E06	01	17.2		A	AXX	10	2	1	3
0011	23535	MWIL	01	13	1635	N07	E48	01	17.3	4	(B)					
0011	23535	MWIL	01	14	1634	N07	E33	01	17.2	3	(B)					
0011	23535	MWIL	01	15	1649	N07	E20	01	17.2	3	(B)					
4063		RAMY	01	13	1255	N05	E50	01	17.3		B	CRO	70	6	4	4
4063		HOLL	01	13	1622	N06	E47	01	17.2		B	CRO	30	8	3	4
4063		BOUL	01	13	2030	N07	E46	01	17.3		A	HSX	20	1	1	2
4063		LEAR	01	14	0310	N06	E40	01	17.1		B	DRO	80	11	5	3
4063		RAMY	01	14	1340	N06	E35	01	17.2		B	BXO	10	2	4	3
4063		HOLL	01	14	1548	N07	E33	01	17.1		B	BXO	20	5	6	3
4063		BOUL	01	14	1600	N04	E31	01	17.0		B	BXO	20	6	7	3
4063		PALE	01	14	2020	N06	E30	01	17.1		B	BXO	30	5	7	3
4063		MANI	01	15	0028	N05	E27	01	17.0			BXO	20	9	9	3
4063		LEAR	01	15	0105	N06	E28	01	17.1		B	DRO	70	13	6	3
4063		RAMY	01	15	1640	N04	E19	01	17.1		B	BXO	200	8	7	2
4063		PALE	01	15	1930	N06	E17	01	17.1		B	BXO	20	4	7	3
4063		LEAR	01	16	0006	N06	E15	01	17.1		B	BXO	10	12	7	3
4063		MANI	01	16	0305	N05	E13	01	17.1			BXO	10	3	6	2
4063		RAMY	01	16	1345	N04	E08	01	17.2		B	CAO	20	4	3	3
4063		HOLL	01	16	1557	N04	E06	01	17.1		B	BXO	20	4	4	4
4063	23539	MWIL	01	16	1745	N04	E05	01	17.1	3	(AP)					
4063		PALE	01	16	1825	N04	E05	01	17.1		B	CRO	30	5	5	3
4063		LEAR	01	17	0010	N05	E02	01	17.2		B	BXO	10	15	6	3
4063		RAMY	01	17	1427	N06	W06	01	17.2		B	CAO	60	12	6	2
4063	23539	MWIL	01	17	1600	N04	W08	01	17.1	4	(AP)					
4063		BOUL	01	17	1645	N04	W08	01	17.1		B	BXO	10	7	6	2
4063		PALE	01	17	1930	N05	W10	01	17.1		B	CAO	60	9	6	4
4063		MANI	01	18	0000	N05	W12	01	17.1			CSO	40	10	5	3
4063		LEAR	01	18	0048	N04	W13	01	17.1		B	CRO	30	14	6	2
4063		RAMY	01	18	1536	N05	W21	01	17.1		B	CSO	40	7	5	1
4063	23539	MWIL	01	18	1630	N04	W24	01	16.9	3	(AP)					

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4063		PALE	01	18	1919	N04 W25	01	16.9		B	BXO	20	4	3	4
4063		LEAR	01	19	0057	N04 W28	01	16.9		A	AXX	10	1	1	2
4063		MANI	01	19	0222	N05 W26	01	17.2			BXO	20	6	60	2
4063		PALE	01	19	2015	N07 W35	01	17.2		A	AXX	10	1	2	2
4063		MANI	01	20	0005	N05 W40	01	17.0			AXX	10	1	1	3
4063		RAMY	01	20	1250	N06 W45	01	17.2		B	BXO	10	3	3	3
0012		MANI	01	15	0028	S23 E30	01	17.3			AXX	10	1		3
0012		LEAR	01	15	0105	S23 E30	01	17.4		A	AXX		1		3
4062	23533	MWIL	01	12	1645	N11 E72	01	18.1	3	(B)					
4062		HOLL	01	12	1730	N10 E72	01	18.1		B	BXO	10	3	2	3
4062		MANI	01	12	2326	N10 E71	01	18.3			BXO	20	3	5	3
4062		LEAR	01	13	0045	N11 E66	01	18.0		B	CSO	10	5	4	3
4062		RAMY	01	13	1255	N09 E59	01	18.0		A	HAX	20	1	1	4
4062		HOLL	01	13	1622	N11 E56	01	17.9		A	AXX		1		4
4062	23533	MWIL	01	13	1635	N10 E58	01	18.1	3	(AP)					
4062		BOUL	01	13	2030	N10 E54	01	17.9		A	AXX	10	1	1	2
4062		LEAR	01	14	0310	N10 E50	01	17.9		A	HRX	10	1	1	3
4062		RAMY	01	14	1340	N11 E45	01	18.0		A	AXX	20	1	1	3
4062		HOLL	01	14	1548	N11 E43	01	17.9		A	AXX	10	1		3
4062		BOUL	01	14	1600	N08 E42	01	17.8		A	AXX	10	1		3
4062	23533	MWIL	01	14	1634	N10 E42	01	17.8	2	AP					
0013		PALE	01	17	1930	N09 E08	01	18.4		A	AXX	10	2	2	4
0013		MANI	01	18	0000	N09 E06	01	18.5			AXX	40	2	2	3
4060		RAMY	01	12	1355	N04 E80	01	18.6		A	HSX	100	1	3	2
4060		BOUL	01	12	1610	N05 E81	01	18.7		A	HSX	240	1	2	2
4060	23534	MWIL	01	12	1645	N04 E80	01	18.7	3	(AP)					
4060		HOLL	01	12	1730	N05 E79	01	18.6		A	HSX	250	1	2	3
4060		MANI	01	12	2326	N05 E78	01	18.8			HHX	250	1	2	3
4060		LEAR	01	13	0045	N05 E78	01	18.9		B	EHO	370	2	11	3
4060		RAMY	01	13	1255	N03 E70	01	18.8		A	HKX	310	1	3	4
4060		HOLL	01	13	1622	N05 E67	01	18.7		A	HSX	250	1	2	4
4060	23534	MWIL	01	13	1635	N04 E68	01	18.8	5	(AP)					
4060		BOUL	01	13	2030	N06 E69	01	19.0		A	HSX	140	1	2	2
4060		LEAR	01	14	0310	N04 E62	01	18.8		A	HHX	250	1	3	3
4060		RAMY	01	14	1340	N04 E56	01	18.8		B	CAO	220	3	3	3
4060		HOLL	01	14	1548	N04 E55	01	18.8		A	HHX	270	2	3	3
4060		BOUL	01	14	1600	N03 E52	01	18.6		B	CHO	240	2	3	3
4060	23534	MWIL	01	14	1634	N04 E55	01	18.8	5	(BP)					
4060		PALE	01	14	2020	N04 E53	01	18.8		B	CSO	160	2	3	3
4060		MANI	01	15	0028	N03 E51	01	18.8			CHO	240	2	3	3
4060		LEAR	01	15	0105	N04 E50	01	18.8		B	CHO	220	4	5	3
4060		RAMY	01	15	1640	N04 E42	01	18.8		B	CHO	280	6	4	2
4060	23534	MWIL	01	15	1649	N04 E41	01	18.8	6	(BP)					
4060		PALE	01	15	1930	N04 E40	01	18.8		B	CHO	190	4	4	3
4060		LEAR	01	16	0006	N05 E37	01	18.8		B	CHO	250	7	6	3
4060		LEAR	01	16	0006	N05 E37	01	18.8		B	CSO	250	7	6	3
4060		MANI	01	16	0305	N03 E37	01	18.9			CHO	240	5	4	2
4060		RAMY	01	16	1345	N04 E30	01	18.8		B	DKO	260	6	4	3
4060		HOLL	01	16	1557	N05 E28	01	18.8		B	DHO	280	4	6	4
4060	23534	MWIL	01	16	1745	N04 E27	01	18.8	5	(B)					
4060		PALE	01	16	1825	N05 E27	01	18.8		B	CKO	240	6	4	3
4060		LEAR	01	17	0010	N05 E24	01	18.8		B	CHO	250	7	5	3
4060		RAMY	01	17	1427	N05 E16	01	18.8		B	CHO	270	6	4	2
4060	23534	MWIL	01	17	1600	N05 E14	01	18.7	5	(BP)					
4060		BOUL	01	17	1645	N03 E13	01	18.7		B	CAO	170	5	4	2
4060		PALE	01	17	1930	N05 E12	01	18.7		B	CHO	220	8	5	4
4060		MANI	01	18	0000	N04 E11	01	18.8			CHO	320	4	6	3
4060		LEAR	01	18	0048	N03 E08	01	18.6		B	CHO	270	4	8	2
4060		RAMY	01	18	1536	N03 E01	01	18.7		A	HHX	200	2	3	1
4060	23534	MWIL	01	18	1630	N04 E01	01	18.8	5	(AP)					
4060		PALE	01	18	1919	N03 E01	01	18.9		B	CKO	260	5	6	4
4060		HOLL	01	18	2024	N04 W01	01	18.8		B	CSO	260	6	6	3
4060		LEAR	01	19	0057	N02 W03	01	18.8		B	CSO	270	5	6	2
4060		MANI	01	19	0222	N04 W04	01	18.8			CHO	300	6	6	2
4060		BOUL	01	19	1530	N04 W10	01	18.9		B	CHO	210	4	4	2
4060	23534	MWIL	01	19	1615	N04 W13	01	18.7	5	(AP)					
4060		PALE	01	19	2015	N04 W14	01	18.8		B	CKO	230	3	5	2

REGIONS OF SUNSPOT ACTIVITY
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JANUARY 1983

NOAA/ USAF Region	Mt Wilson Region	Sta	Observation Time Mo	Day	(UT)	Lat	CMD	CMP Mo	Day	Max H	Mag Class	Spot Class	Corrected Area (10-6 Hemi)	Spot Count	Long. Extent (Deg)	Qual
4060		HOLL	01	19	2022	N04	W14	01	18.8		B	CHO	320	3	5	3
4060		MANI	01	20	0005	N04	W16	01	18.8			CHO	310	5	5	3
4060		LEAR	01	20	0053	N03	W18	01	18.7		A	HKX	220	1	3	3
4060		RAMY	01	20	1250	N04	W24	01	18.7		B	CHO	250	4	5	3
4060		BOUL	01	20	1600	N04	W26	01	18.7		A	HHX	160	1	3	2
4060	23534	MWIL	01	20	1630	N03	W27	01	18.7	5	(AP)					
4060		LEAR	01	21	0001	N03	W30	01	18.8		A	HHX	220	1	3	2
4060		MANI	01	21	0001	N04	W30	01	18.8		A	HHX	300	2	3	3
4060		RAMY	01	21	1310	N04	W39	01	18.6		A	HAX	210	2	2	3
4060	23534	MWIL	01	21	1600	N03	W40	01	18.7	5	AP					
4060		PALE	01	21	2000	N04	W42	01	18.7		A	HSX	170	1	2	3
4060		LEAR	01	22	0005	N03	W44	01	18.7		A	HSX	210	2	2	3
4060		RAMY	01	22	1305	N03	W52	01	18.7		A	HAX	160	2	2	3
4060		HOLL	01	22	1542	N04	W54	01	18.6		A	HSX	260	1	2	3
4060		PALE	01	22	1835	N04	W55	01	18.7		A	HSX	170	1	2	2
4060		LEAR	01	23	0014	N03	W57	01	18.7		A	HSX	200	2	2	2
4060		RAMY	01	23	1414	N03	W68	01	18.5		A	HKX	140	2	3	2
4060		HOLL	01	23	1847	N03	W69	01	18.6		A	HSX	250	1	2	2
4060		PALE	01	23	1930	N03	W69	01	18.7		A	HSX	200	1	2	3
4060		LEAR	01	24	0045	N03	W70	01	18.8		A	HHX	250	1	4	3
4060		RAMY	01	24	1401	N03	W79	01	18.7		A	HAX	140	1	2	2
4060		HOLL	01	24	1600	N02	W80	01	18.7		A	HSX	150	1	2	4
4060		BOUL	01	24	1600	N04	W81	01	18.6		A	HSX	60	1	1	2
4060		PALE	01	24	2348	N02	W85	01	18.6		A	HSX	180	1	2	3
4060		LEAR	01	25	0028	N03	W85	01	18.7		A	HHX	250	1	4	3
4064		RAMY	01	13	1255	N08	E79	01	19.5		B	CAO	90	5	2	4
4064		HOLL	01	13	1622	N09	E75	01	19.3		A	HSX	140	2	3	4
4064	23536	MWIL	01	13	1635	N08	E79	01	19.6	3	(AP)					
4064		BOUL	01	13	2030	N09	E78	01	19.7		A	HSX	120	1	2	2
4064		LEAR	01	14	0310	N09	E70	01	19.4		A	HKX	150	4	3	3
4064		LEAR	01	14	0310	N09	E70	01	19.4		B	CKO	150	4	3	3
4064		RAMY	01	14	1340	N08	E65	01	19.4		B	DAO	200	8	4	3
4064		HOLL	01	14	1548	N08	E62	01	19.3		B	CAO	100	7	5	3
4064		BOUL	01	14	1600	N07	E60	01	19.2		B	CSO	170	6	3	3
4064	23536	MWIL	01	14	1634	N08	E65	01	19.6	4	(BF)					
4064		PALE	01	14	2020	N08	E61	01	19.4		B	CAO	180	5	4	3
4064		MANI	01	15	0028	N08	E60	01	19.5			DAO	190	5	4	3
4064		LEAR	01	15	0105	N09	E58	01	19.4		B	DKO	170	6	4	3
4064		RAMY	01	15	1640	N09	E49	01	19.4		B	CAO	160	9	3	2
4064	23536	MWIL	01	15	1649	N08	E50	01	19.5	5	(BF)					
4064		PALE	01	15	1930	N08	E47	01	19.3		B	CAO	160	7	3	3
4064		LEAR	01	16	0006	N08	E44	01	19.3		BD	DKI	200	11	5	3
4064		MANI	01	16	0305	N08	E44	01	19.4			DKI	180	10	3	2
4064		RAMY	01	16	1345	N07	E37	01	19.3		B	DAO	230	16	4	3
4064		HOLL	01	16	1557	N07	E37	01	19.4		B	DAI	210	17	5	4
4064	23536	MWIL	01	16	1745	N08	E35	01	19.4	4	(BF)					
4064		PALE	01	16	1825	N08	E35	01	19.4		B	DAO	240	14	4	3
4064		LEAR	01	17	0010	N08	E31	01	19.3		BD	DKI	230	9	4	3
4064		RAMY	01	17	1427	N09	E25	01	19.5		B	DKO	210	9	6	2
4064	23536	MWIL	01	17	1600	N09	E23	01	19.4	5	(BF)					
4064		BOUL	01	17	1645	N08	E22	01	19.3		BD	DAI	80	10	4	2
4064		PALE	01	17	1930	N08	E21	01	19.4		BD	DAI	220	14	4	4
4064		MANI	01	18	0000	N08	E18	01	19.4			DAO	220	11	5	3
4064		LEAR	01	18	0048	N08	E17	01	19.3		B	CKO	280	17	7	2
4064		RAMY	01	18	1536	N08	E09	01	19.3		BD	DKI	140	15	3	1
4064	23536	MWIL	01	18	1630	N08	E09	01	19.4	4	(BF)					
4064		PALE	01	18	1919	N07	E10	01	19.6		BD	DAO	120	12	7	4
4064		HOLL	01	18	2024	N08	E07	01	19.4		BD	DAI	120	14	5	3
4064		LEAR	01	19	0057	N08	E06	01	19.5		B	CAO	190	18	5	2
4064		MANI	01	19	0222	N08	E04	01	19.4			DAO	190	14	5	2
4064		BOUL	01	19	1530	N11	W03	01	19.4		B	CAO	110	5	5	2
4064	23536	MWIL	01	19	1615	N08	W05	01	19.3	4	(AP)					
4064		PALE	01	19	2015	N09	W06	01	19.4		A	HAX	110	3	2	2
4064		HOLL	01	19	2022	N10	W05	01	19.5		B	CAO	130	13	9	3
4064		MANI	01	20	0005	N09	W08	01	19.4			CSO	160	9	4	3
4064		LEAR	01	20	0053	N08	W08	01	19.4		B	CAO	100	4	3	3
4064		RAMY	01	20	1250	N08	W14	01	19.5		B	CAO	140	9	4	3
4064		BOUL	01	20	1600	N09	W18	01	19.3		A	HSX	110	2	2	2
4064	23536	MWIL	01	20	1630	N08	W18	01	19.3	4	(AP)					
4064		LEAR	01	21	0001	N07	W22	01	19.4		A	HSX	100	2	2	2

REGIONS OF SUNSPOT ACTIVITY
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NOAA/ USAF Region	Mt Wilson Region	Sta	Observation Mo	Day	Time (UT)	Lat CMD	CMP Mo	Day	Max H	Mag Class	Spot Class	Corrected Area (10-6 Hemi)	Spot Count	Long. Extent (Deg)	Qual
4064		MANI	01	21	0001	N09 W21	01	19.4		A	HSX	150	2	2	3
4064		RAMY	01	21	1310	N09 W29	01	19.4		A	HAX	90	3	2	3
4064	23536	MWIL	01	21	1600	N08 W31	01	19.3	4	AP					
4064		PALE	01	21	2000	N08 W32	01	19.4		A	HAX	100	3	2	3
4064		LEAR	01	22	0005	N08 W34	01	19.5		B	CAO	100	5	7	3
4064		RAMY	01	22	1305	N09 W43	01	19.3		A	HAX	60	2	2	3
4064		HOLL	01	22	1542	N10 W40	01	19.6		B	CSO	80	6	11	3
4064		PALE	01	22	1835	N10 W41	01	19.7		B	CSO	100	3	9	2
4064		LEAR	01	23	0014	N08 W49	01	19.3		A	HAX	80	3	2	2
4064		RAMY	01	23	1414	N08 W57	01	19.3		A	HSX	40	1	2	2
4064		HOLL	01	23	1847	N09 W58	01	19.4		A	HSX	60	2	2	2
4064		PALE	01	23	1930	N09 W59	01	19.4		A	HSX	80	2	2	3
4064		LEAR	01	24	0045	N08 W61	01	19.5		A	HSX	60	2	2	3
4064		RAMY	01	24	1401	N09 W69	01	19.4		A	HSX	60	1	2	2
4064		HOLL	01	24	1600	N09 W71	01	19.3		A	HSX	30	1	2	4
4064		BOUL	01	24	1600	N09 W72	01	19.3		A	HSX	110	1	1	2
4064		PALE	01	24	2348	N09 W76	01	19.3		A	HSX	50	1	2	3
4064		LEAR	01	25	0028	N08 W77	01	19.2		A	HSX	60	1	2	3
4064		RAMY	01	25	1350	N09 W86	01	19.1		A	HAX	30	1	2	3
4064	23536	MWIL	01	25	1545	N08 W85	01	19.3	2	(AF)					
4065		RAMY	01	13	1255	S12 E84	01	19.9		B	BXO	30	3	2	4
4065		HOLL	01	13	1622	S11 E79	01	19.6		A	HSX	30	1	1	4
4065	23537	MWIL	01	13	1635	S12 E86	01	20.2	3	(AP)					
4065		BOUL	01	13	2030	S12 E81	01	20.0		A	HSX	60	1	1	2
4065		LEAR	01	14	0310	S12 E76	01	19.9		B	CSO	70	3	5	3
4065		RAMY	01	14	1340	S13 E71	01	19.9		B	CAO	60	4	6	3
4065		HOLL	01	14	1548	S12 E68	01	19.8		B	DSO	90	6	5	3
4065		BOUL	01	14	1600	S15 E70	01	20.0		B	CSO	100	6	3	3
4065	23537	MWIL	01	14	1634	S12 E69	01	19.9	4	(B)					
4065		PALE	01	14	2020	S12 E67	01	19.9		B	DSO	90	5	5	3
4065		MANI	01	15	0028	S14 E65	01	19.9			DAI	120	7	7	3
4065		LEAR	01	15	0105	S12 E65	01	19.9		B	DSO	130	6	6	3
4065		RAMY	01	15	1640	S13 E56	01	19.9		B	DAO	170	14	7	2
4065	23537	MWIL	01	15	1649	S12 E55	01	19.8	3	(B)					
4065		PALE	01	15	1930	S13 E55	01	20.0		B	DSO	190	12	8	3
4065		LEAR	01	16	0006	S12 E52	01	19.9		B	DSO	200	16	8	3
4065		MANI	01	16	0305	S14 E50	01	19.9			DAI	130	12	7	2
4065		RAMY	01	16	1345	S14 E44	01	19.9		B	DAO	140	19	9	3
4065		HOLL	01	16	1557	S13 E42	01	19.8		B	DAO	230	21	10	4
4065	23537	MWIL	01	16	1745	S13 E42	01	19.9	4	(B)					
4065		PALE	01	16	1825	S13 E41	01	19.9		B	DAO	190	19	10	3
4065		LEAR	01	17	0010	S13 E37	01	19.8		B	CKO	200	24	9	3
4065		RAMY	01	17	1427	S13 E29	01	19.8		B	DKO	270	18	10	2
4065	23537	MWIL	01	17	1600	S12 E27	01	19.7	4	(B)					
4065		BOUL	01	17	1645	S12 E28	01	19.8		BG	DSI	210	19	9	2
4065		PALE	01	17	1930	S13 E27	01	19.9		BG	DSI	330	26	10	4
4065		MANI	01	18	0000	S14 E25	01	19.9			DAO	390	23	10	3
4065		LEAR	01	18	0048	S12 E23	01	19.8		B	EHO	320	32	11	2
4065		RAMY	01	18	1536	S13 E15	01	19.8		B	DKO	270	25	10	1
4065	23537	MWIL	01	18	1630	S13 E15	01	19.8	4	(B)					
4065		PALE	01	18	1919	S14 E14	01	19.9		B	DSI	320	37	10	4
4065		HOLL	01	18	2024	S13 E14	01	19.9		B	ESO	340	25	11	3
4065		LEAR	01	19	0057	S13 E11	01	19.9		B	ESO	330	24	11	2
4065		MANI	01	19	0222	S13 E10	01	19.9			EKI	350	31	11	2
4065		BOUL	01	19	1530	S11 E04	01	19.9		B	DKI	250	31	10	2
4065	23537	MWIL	01	19	1615	S13 E02	01	19.8	5	(B)					
4065		PALE	01	19	2015	S13 E01	01	19.9		B	DKO	270	18	10	2
4065		HOLL	01	19	2022	S12 W01	01	19.8		B	DSO	360	22	9	3
4065		MANI	01	20	0005	S13 W02	01	19.9			EKI	360	30	11	3
4065		LEAR	01	20	0053	S13 W02	01	19.9		B	DHO	270	17	10	3
4065		RAMY	01	20	1250	S13 W09	01	19.9		BG	EKO	300	28	12	3
4065		BOUL	01	20	1600	S13 W12	01	19.8		B	DKI	380	11	10	2
4065	23537	MWIL	01	20	1630	S13 W11	01	19.9	5	(B)					
4065		MANI	01	21	0001	S13 W15	01	19.9		B	DKI	340	9	10	3
4065		LEAR	01	21	0001	S15 W15	01	19.9		B	EHO	280	9	11	2
4065		RAMY	01	21	1310	S13 W23	01	19.8		B	EKO	210	15	11	3
4065	23537	MWIL	01	21	1600	S13 W26	01	19.7	5	BP					
4065		PALE	01	21	2000	S13 W26	01	19.9		B	EKO	210	5	11	3
4065		LEAR	01	22	0005	S13 W27	01	20.0		B	EKO	320	10	11	3
4065		RAMY	01	22	1305	S13 W36	01	19.8		B	DKO	270	6	10	3

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JANUARY 1983

NOAA/ USAF Region	Mt Wilson Region	Sta	Observation Time Mo	Day	(UT)	Lat	CMD	CMP Mo	Day	Max H	Mag Class	Spot Class	Corrected Area (10-6 Hemi)	Spot Count	Long. Extent (Deg)	Qual
4065		HOLL	01	22	1542	S12	W37	01	19.9		B	CHO	260	9	10	3
4065		PALE	01	22	1835	S12	W39	01	19.8		B	CKO	260	4	10	2
4065		LEAR	01	23	0014	S14	W40	01	20.0		B	CKO	160	12	10	2
4065		RAMY	01	23	1414	S14	W50	01	19.8		B	CKO	220	16	12	2
4065		HOLL	01	23	1847	S13	W52	01	19.9		B	CSO	150	13	11	2
4065		PALE	01	23	1930	S13	W52	01	19.9		B	CSO	200	12	11	3
4065		LEAR	01	24	0045	S13	W55	01	19.9		B	CSO	200	10	11	3
4065		RAMY	01	24	1401	S14	W64	01	19.7		B	DAO	270	13	9	2
4065		BOUL	01	24	1600	S12	W66	01	19.7		B	CSO	190	6	5	2
4065		HOLL	01	24	1600	S14	W64	01	19.8		B	CSO	150	5	10	4
4065		PALE	01	24	2348	S13	W71	01	19.6		B	DAO	140	2	4	3
4065		LEAR	01	25	0028	S13	W73	01	19.5		B	DSO	60	2	6	3
4065		RAMY	01	25	1350	S13	W79	01	19.6		B	DAO	60	3	3	3
4065	23537	MWIL	01	25	1545	S14	W79	01	19.7	3	(AP)					
4067		MANI	01	15	0028	N15	E81	01	21.2			HRX	60	2	1	3
4067		LEAR	01	15	0105	N16	E80	01	21.1		A	AXX	10	2	2	3
4067		RAMY	01	15	1640	N15	E73	01	21.2		B	DAO	30	4	6	2
4067	23538	MWIL	01	15	1649	N17	E72	01	21.2	3	B					
4067		PALE	01	15	1930	N16	E73	01	21.4		B	DSO	40	4	6	3
4067		LEAR	01	16	0006	N16	E67	01	21.1		B	DSO	140	5	7	3
4067		MANI	01	16	0305	N15	E66	01	21.1			HSX	40	2	1	2
4067		RAMY	01	16	1345	N15	E62	01	21.3		B	CAO	40	4	6	3
4067		HOLL	01	16	1557	N17	E59	01	21.2		B	CAO	40	4	5	4
4067	23538	MWIL	01	16	1745	N16	E60	01	21.3	4	(B)					
4067		PALE	01	16	1825	N16	E59	01	21.2		B	DSO	60	4	7	3
4067		LEAR	01	17	0010	N16	E55	01	21.2		B	DSO	110	5	5	3
4067		RAMY	01	17	1427	N15	E49	01	21.3		B	DSO	80	4	5	2
4067	23538	MWIL	01	17	1600	N17	E45	01	21.1	4	(B)					
4067		BOUL	01	17	1645	N15	E47	01	21.3		B	CSO	30	5	7	2
4067		PALE	01	17	1930	N16	E45	01	21.2		B	CSO	80	6	7	4
4067		MANI	01	18	0000	N16	E43	01	21.3			CSO	90	6	7	3
4067		LEAR	01	18	0048	N14	E41	01	21.1		B	DSO	90	10	8	2
4067		RAMY	01	18	1536	N15	E33	01	21.2		B	DSO	160	12	6	1
4067	23538	MWIL	01	18	1630	N16	E33	01	21.2	4	(B)					
4067		PALE	01	18	1919	N16	E32	01	21.2		B	DSO	70	12	5	4
4067		HOLL	01	18	2024	N16	E30	01	21.1		B	CSO	70	10	5	3
4067		LEAR	01	19	0057	N14	E29	01	21.2		B	DSO	110	13	4	2
4067		MANI	01	19	0222	N16	E28	01	21.2			CSO	90	16	6	2
4067		BOUL	01	19	1530	N18	E22	01	21.3		B	CSO	60	9	6	2
4067	23538	MWIL	01	19	1615	N16	E21	01	21.3	4	(B)					
4067		PALE	01	19	2015	N16	E18	01	21.2		B	DSO	70	10	5	2
4067		HOLL	01	19	2022	N16	E18	01	21.2		B	CSO	70	14	5	3
4067		MANI	01	20	0005	N16	E16	01	21.2			DSO	100	11	6	3
4067		LEAR	01	20	0053	N15	E16	01	21.2		B	CSO	70	8	5	3
4067		RAMY	01	20	1250	N17	E10	01	21.3		B	DAO	80	13	6	3
4067		BOUL	01	20	1600	N16	E07	01	21.2		B	CSO	60	5	5	2
4067	23538	MWIL	01	20	1630	N17	E07	01	21.2	4	(B)					
4067		LEAR	01	21	0001	N16	E02	01	21.2		B	CSO	50	3	5	2
4067		MANI	01	21	0001	N16	E03	01	21.2		B	CSO	60	6	5	3
4067		RAMY	01	21	1310	N17	W04	01	21.2		B	CAO	20	5	5	3
4067	23538	MWIL	01	21	1600	N17	W08	01	21.1	5	AP					
4067		PALE	01	21	2000	N16	W07	01	21.3		B	CSO	50	3	5	3
4067		LEAR	01	22	0005	N17	W12	01	21.1		A	HAX	30	1	1	3
4067		RAMY	01	22	1305	N17	W19	01	21.1		A	HAX	50	1	1	3
4067		HOLL	01	22	1542	N17	W22	01	21.0		A	HSX	50	1	1	3
4067		PALE	01	22	1835	N17	W22	01	21.1		A	HSX	50	1	1	2
4067		LEAR	01	23	0014	N17	W26	01	21.0		A	HSX	40	1	1	2
4067		RAMY	01	23	1414	N17	W32	01	21.2		B	CSO	70	3	6	2
4067		HOLL	01	23	1847	N17	W37	01	21.0		A	HSX	30	1	1	2
4067		PALE	01	23	1930	N18	W38	01	20.9		A	HSX	20	1	1	3
4067		LEAR	01	24	0045	N17	W39	01	21.1		B	CSO	40	2	6	3
4067		RAMY	01	24	1401	N18	W47	01	21.0		A	HSX	20	1	2	2
4067		HOLL	01	24	1600	N17	W48	01	21.0		A	HSX	50	1	1	4
4067		BOUL	01	24	1600	N18	W48	01	21.0		B	CSO	40	3	2	2
4067		PALE	01	24	2348	N17	W53	01	21.0		A	HSX	30	1	1	3
4067		LEAR	01	25	0028	N17	W53	01	21.0		A	HSX	60	1	2	3
4067		RAMY	01	25	1350	N18	W61	01	20.9		A	HAX	30	1	1	3
4067	23538	MWIL	01	25	1545	N16	W61	01	21.0	4	(AP)					
4067		LEAR	01	26	0206	N18	W68	01	20.9		A	AXX		1		3
4067		RAMY	01	26	1330	N18	W73	01	21.0		A	HAX	30	1	1	3

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NOAA/ USAF Region	Mt Wilson Region	Sta	Observation Time Mo	Day	(UT)	Lat	CMD	CMP Mo	Day	Max H	Mag Class	Spot Class	Corrected Area (10-6 Hem)	Spot Count	Long. Extent (Deg)	Qual
4067		HOLL	01	26	1609	N17	W74	01	21.0		A	AXX		1		3
4067	23538	MWIL	01	26	1700	N17	W75	01	21.0	3	(AP)					
4067		PALE	01	26	1840	N18	W77	01	20.9		A	AXX		1		4
		MANI	01	16	0305	N13	E70	01	21.4			HRX	30	1	1	2
4068		RAMY	01	16	1345	S12	E80	01	22.6		A	HAX	60	1	2	3
4068		HOLL	01	16	1557	S10	E78	01	22.5		A	HSX	170	2	2	4
4068	23540	MWIL	01	16	1745	S11	E80	01	22.8	3	(AP)					
4068		PALE	01	16	1825	S11	E78	01	22.6		A	HSX	150	2	2	3
4068		LEAR	01	17	0010	S11	E74	01	22.6		A	HSX	140	2	2	3
4068		RAMY	01	17	1427	S12	E67	01	22.7		A	HAX	140	2	2	2
4068	23540	MWIL	01	17	1600	S10	E66	01	22.6	4	(AP)					
4068		BOUL	01	17	1645	S12	E66	01	22.7		A	HSX	70	1	1	2
4068		PALE	01	17	1930	S12	E64	01	22.6		A	HSX	170	2	2	4
4068		MANI	01	18	0000	S11	E62	01	22.7			HSX	140	2	2	3
4068		LEAR	01	18	0048	S11	E61	01	22.6		A	HSX	200	3	2	2
4068		RAMY	01	18	1536	S12	E53	01	22.6		A	HAX	200	2	2	1
4068	23540	MWIL	01	18	1630	S12	E53	01	22.7	4	(AP)					
4068		PALE	01	18	1919	S11	E51	01	22.6		A	HSX	140	3	2	4
4068		HOLL	01	18	2024	S10	E49	01	22.5		A	HSX	90	2	2	3
4068		LEAR	01	19	0057	S12	E48	01	22.7		A	HSX	120	2	2	2
4068		MANI	01	19	0222	S11	E48	01	22.7			CSO	120	4	3	2
4068		BOUL	01	19	1530	S11	E38	01	22.5		A	HSX	120	3	2	2
4068	23540	MWIL	01	19	1615	S11	E39	01	22.6	4	(AP)					
4068		PALE	01	19	2015	S11	E38	01	22.7		A	HAX	80	2	2	2
4068		HOLL	01	19	2022	S11	E37	01	22.6		A	HSX	120	2	2	3
4068		MANI	01	20	0005	S11	E35	01	22.6			HSX	130	4	2	3
4068		LEAR	01	20	0053	S12	E35	01	22.7		A	HSX	70	2	2	3
4068		RAMY	01	20	1250	S14	E29	01	22.7		B	CAO	130	7	6	3
4068		BOUL	01	20	1600	S12	E23	01	22.4		A	HSX	70	3	2	2
4068	23540	MWIL	01	20	1630	S12	E26	01	22.6	4	(AP)					
4068		MANI	01	21	0001	S12	E22	01	22.7		A	HSX	40	3	2	3
4068		LEAR	01	21	0001	S12	E23	01	22.7		A	HAO	60	3	1	2
4068		RAMY	01	21	1310	S12	E15	01	22.7		A	HAX	20	4	2	3
4068	23540	MWIL	01	21	1600	S12	E14	01	22.7	3	AP					
4068		PALE	01	21	2000	S12	E11	01	22.7		B	CSO	20	3	3	3
4068		LEAR	01	22	0005	S12	E11	01	22.8		B	CRO	20	7	5	3
4068		RAMY	01	22	1305	S13	E02	01	22.7		A	AXX	10	3	1	3
4068		HOLL	01	22	1542	S10	W05	01	22.3		A	AXX		1		3
4068		HOLL	01	22	1542	S11	W00	01	22.7		A	AXX		1		3
4068		PALE	01	22	1835	S11	W02	01	22.6		A	AXX		1		2
4068		PALE	01	22	1835	S11	W08	01	22.2		A	AXX	10	2	1	2
4068		RAMY	01	24	1401	S17	W23	01	22.8		B	BXO	40	5	3	2
4068		HOLL	01	24	1600	S16	W23	01	22.9		A	AXX	20	4	2	4
4068		PALE	01	24	2348	S15	W28	01	22.9		A	AXX		1		3
		PALE	01	23	1930	N21	W01	01	23.7		A	AXX		1		3
0014		HOLL	01	19	2022	S16	E55	01	24.0		B	BXO	10	2	3	3
0014		LEAR	01	24	0045	S20	W03	01	23.8		A	AXX	10	1		3
		RAMY	01	26	1330	S13	W16	01	25.4		A	AXX	10	1	1	3
4076		PALE	01	27	2030	N24	W30	01	25.5		B	BXO	10	2	3	2
4076		HOLL	01	27	2200	N22	W31	01	25.5		B	BXO	10	2	3	2
4076		LEAR	01	28	0113	N24	W34	01	25.4		A	AXX		1		3
4076		BOUL	01	28	1540	N24	W41	01	25.5		A	AXX		1		3
4076		HOLL	01	28	1550	N24	W43	01	25.3		B	BXO	10	2	3	2
4076		PALE	01	28	2030	N23	W45	01	25.4		A	AXX		1		3
	23550	MWIL	01	28	1930	N20	W42	01	25.6	2	X					
4070		HOLL	01	22	1542	S12	E59	01	27.1		B	BXO	10	2	3	3
4070		PALE	01	22	1835	S12	E57	01	27.1		A	AXX	10	1	1	2
4070		LEAR	01	23	0014	S13	E53	01	27.0		A	AXX		1		2
4070		RAMY	01	23	1414	S13	E46	01	27.1		A	AXX	10	1	1	2
4070		HOLL	01	23	1847	S13	E42	01	27.0		B	BXO	10	2	3	2
4070		PALE	01	23	1930	S13	E41	01	26.9		B	BXO	10	2	3	3
4070		HOLL	01	24	1600	S11	E26	01	26.6		A	AXX		1		4
4070		PALE	01	24	2348	S10	E21	01	26.6		B	BXO	20	3	3	3

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NOAA/ USAF Region	Mt Wilson Region	Sta	Observation Time Mo	Day	(UT)	Lat	CMD	CMP Mo	Day	Max H	Mag Class	Spot Class	Corrected Area (10-6 Hemi)	Spot Count	Long. Extent (Deg)	Qual
4070		LEAR	01	25	0028	S11	E21	01	26.6		B	BXO	10	6	5	3
4070		RAMY	01	25	1350	S12	E12	01	26.5		B	CAO	10	6	3	3
4070	23541	MWIL	01	25	1545	S10	E11	01	26.5	3	(BP)					
4070		LEAR	01	26	0206	S09	E05	01	26.5		B	BXO	30	6	3	3
4070		RAMY	01	26	1330	S11	W03	01	26.3		B	BXO	10	3	3	3
4070		HOLL	01	26	1609	S11	W03	01	26.4		B	BXO	10	3	3	3
4070		BOUL	01	26	1615	S12	W03	01	26.5		B	BXO	10	2	2	2
4070	23541	MWIL	01	26	1700	S10	W04	01	26.4	2	(AP)					
4070		PALE	01	26	1840	S11	W05	01	26.4		B	BXO	20	3	3	4
4070		LEAR	01	28	0113	S12	W19	01	26.6		A	AXX		1		3
4070		LEAR	01	29	0011	S11	W32	01	26.6		A	AXX		1		3
4070		HOLL	01	29	1558	S11	W41	01	26.6		A	AXX	10	1		4
4070	23541	MWIL	01	29	1600	S11	W40	01	26.7	2	(AF)					
4070		PALE	01	29	2000	S11	W43	01	26.6		A	AXX	10	1		3
4070		LEAR	01	30	0014	S11	W46	01	26.5		A	AXX		1		3
4072		LEAR	01	24	0045	S07	E59	01	28.5		A	AXX		1		3
4072		RAMY	01	24	1401	S07	E53	01	28.6		A	AXX	30	1	1	2
4072		HOLL	01	24	1600	S06	E52	01	28.6		B	BXO	20	3	3	4
4072		PALE	01	24	2348	S06	E46	01	28.4		B	BXO	20	3	3	3
4072		LEAR	01	25	0028	S07	E43	01	28.2		B	BXO	20	4	7	3
4072		RAMY	01	25	1350	S08	E36	01	28.3		BG	DAO	90	14	5	3
4072	23543	MWIL	01	25	1545	S07	E34	01	28.2	5	(B)					
4072		LEAR	01	26	0206	S07	E27	01	28.1		B	DAO	120	9	6	3
4072		RAMY	01	26	1330	S08	E22	01	28.2		B	DAO	150	20	7	3
4072		HOLL	01	26	1609	S07	E20	01	28.2		B	DSO	210	12	8	3
4072		BOUL	01	26	1615	S08	E19	01	28.1		B	BXO	120	8	8	2
4072	23543	MWIL	01	26	1700	S07	E20	01	28.2	5	(B)					
4072		PALE	01	26	1840	S07	E19	01	28.2		B	DAO	240	16	8	4
4072		LEAR	01	27	0204	S07	E15	01	28.2		B	DAI	290	17	10	3
4072		RAMY	01	27	1315	S08	E08	01	28.2		B	DKO	180	15	9	3
4072		PALE	01	27	2030	S08	E04	01	28.2		B	DSO	150	11	9	2
4072		HOLL	01	27	2200	S07	E04	01	28.2		B	DSO	280	19	9	2
4072		LEAR	01	28	0113	S07	E02	01	28.2		B	DAO	200	24	9	3
4072		RAMY	01	28	1310	S08	W06	01	28.1		BG	CKO	180	20	9	3
4072		BOUL	01	28	1540	S07	W07	01	28.1		B	DAI	230	27	9	3
4072		HOLL	01	28	1550	S08	W07	01	28.1		B	DAO	330	21	10	2
4072	23543	MWIL	01	28	1930	S08	W10	01	28.1	5	B					
4072		PALE	01	28	2030	S09	W10	01	28.1		B	DSO	300	29	9	3
4072		LEAR	01	29	0011	S08	W13	01	28.0		B	DAO	260	26	9	3
4072		RAMY	01	29	1241	S08	W18	01	28.2		B	DKI	280	25	9	2
4072		HOLL	01	29	1558	S09	W22	01	28.0		B	CHO	260	16	9	4
4072	23543	MWIL	01	29	1600	S09	W21	01	28.1	5	(B)					
4072		PALE	01	29	2000	S09	W24	01	28.0		B	DKO	300	17	9	3
4072		LEAR	01	30	0014	S08	W25	01	28.1		B	DHO	250	13	9	3
4072	23543	MWIL	01	30	1630	S09	W35	01	28.1	5	(B)					
4072		BOUL	01	30	1645	S08	W33	01	28.2		B	DSO	190	8	8	2
4072		PALE	01	30	1906	S09	W36	01	28.1		B	CSO	190	9	10	3
4072		LEAR	01	31	0030	S08	W38	01	28.2		B	DSO	260	15	10	2
4072		RAMY	01	31	1245	S08	W44	01	28.2		B	EHO	250	12	12	4
4072	23543	MWIL	01	31	1545	S09	W48	01	28.1	5	(BP)					
4072		HOLL	01	31	1638	S08	W48	01	28.1		B	EHO	210	7	11	3
4072		PALE	01	31	1917	S09	W48	01	28.2		B	ESO	180	9	11	3
4072		LEAR	02	01	0040	S08	W53	01	28.1		B	CSO	260	10	12	3
4072		MANI	02	01	0207	S08	W54	01	28.0			ESO	230	12	11	3
4072	23543	MWIL	02	01	1600	S09	W63	01	27.9	5	(BP)					
4072		HOLL	02	01	1720	S09	W63	01	28.0		B	CSO	200	5	9	3
4072		PALE	02	01	1850	S09	W63	01	28.1		B	CSO	170	3	9	1
4072		MANI	02	01	2326	S08	W67	01	27.9			CSO	220	4	10	3
4072		LEAR	02	02	0030	S08	W65	01	28.1		B	CSO	140	3	8	3
4072		RAMY	02	02	1330	S08	W75	01	27.9		A	HAX	190	2	2	3
4072		HOLL	02	02	1546	S09	W79	01	27.7		A	HSX	170	3	2	3
4072		BOUL	02	02	1700	S07	W80	01	27.7		A	HSX	60	2	2	2
4072		PALE	02	02	1815	S09	W81	01	27.7		A	HSX	160	2	2	3
4072		MANI	02	03	0007	S10	W84	01	27.7			HSX	440	1	2	3
4072		LEAR	02	03	0008	S09	W86	01	27.5		A	HSX	170	3	2	3
4073		RAMY	01	25	1350	N04	E39	01	28.5		B	DAO	70	11	5	3
4073	23542	MWIL	01	25	1545	N05	E37	01	28.4	5	(B)					
4073		LEAR	01	26	0206	N05	E32	01	28.5		B	DAO	280	11	7	3
4073		RAMY	01	26	1330	N04	E27	01	28.6		B	DKO	420	21	8	3

REGIONS OF SUNSPOT ACTIVITY
(ORDERED BY CENTRAL MERIDIAN PASSAGE DATE)

JANUARY 1983

NOAA/ USAF Region	Mt Wilson Region	Sta	Observation Time Mo	Day	(UT)	Lat	CMD	CMP Mo	Day	Max H	Mag Class	Spot Class	Corrected Area (10-6 Hemi)	Spot Count	Long. Extent (Deg)	Qual
4073		HOLL	01	26	1609	N05	E25	01	28.5		B	DSO	410	19	8	3
4073		BOUL	01	26	1615	N05	E24	01	28.5		B	DSO	180	8	6	2
4073	23542	MWIL	01	26	1700	N05	E24	01	28.5	5	(B)					
4073		PALE	01	26	1840	N05	E23	01	28.5		B	DSO	390	19	9	4
4073		LEAR	01	27	0204	N05	E18	01	28.4		B	DAO	400	14	8	3
4073		RAMY	01	27	1315	N05	E12	01	28.5		B	DKO	290	16	10	3
4073		PALE	01	27	2030	N05	E09	01	28.5		B	DKO	240	11	10	2
4073		HOLL	01	27	2200	N05	E07	01	28.4		B	DAO	300	20	10	2
4073		LEAR	01	28	0113	N05	E05	01	28.4		B	DAO	340	26	10	3
4073		RAMY	01	28	1310	N05	W01	01	28.5		BG	DKO	200	14	10	3
4073		BOUL	01	28	1540	N05	W04	01	28.4		B	DSO	210	21	10	3
4073		HOLL	01	28	1550	N05	W04	01	28.4		BG	DSO	300	16	9	2
4073	23542	MWIL	01	28	1930	N04	W05	01	28.4	5	B					
4073		PALE	01	28	2030	N06	W06	01	28.4		B	DAO	270	26	10	3
4073		LEAR	01	29	0011	N05	W07	01	28.5		B	DAO	240	22	9	3
4073		RAMY	01	29	1241	N05	W15	01	28.4		B	DKI	280	35	10	2
4073		HOLL	01	29	1558	N05	W16	01	28.5		B	EAI	240	25	11	4
4073	23542	MWIL	01	29	1600	N04	W16	01	28.5	4	(B)					
4073		PALE	01	29	2000	N06	W19	01	28.4		B	DAI	330	28	10	3
4073		LEAR	01	30	0014	N04	W19	01	28.6		B	EHI	330	29	11	3
4073	23542	MWIL	01	30	1630	N05	W30	01	28.4	5	(B)					
4073		BOUL	01	30	1645	N05	W28	01	28.6		B	DSI	130	16	10	2
4073		PALE	01	30	1906	N05	W32	01	28.4		B	DSI	230	26	10	3
4073		LEAR	01	31	0030	N05	W34	01	28.5		B	ESO	300	38	11	2
4073		RAMY	01	31	1245	N06	W40	01	28.5		BG	ESO	220	34	11	4
4073	23542	MWIL	01	31	1545	N05	W44	01	28.4	5	(B)					
4073		HOLL	01	31	1638	N05	W43	01	28.5		B	DAO	200	21	10	3
4073		PALE	01	31	1917	N05	W45	01	28.4		B	EAO	160	17	11	3
4073		LEAR	02	01	0040	N04	W47	01	28.5		B	ESO	220	12	11	3
4073		MANI	02	01	0207	N05	W48	01	28.5			EAO	200	21	11	3
4073	23542	MWIL	02	01	1600	N04	W57	01	28.4	5	(BP)					
4073		HOLL	02	01	1720	N05	W58	01	28.4		B	DSO	150	7	9	3
4073		PALE	02	01	1850	N05	W59	01	28.4		B	DSO	160	4	9	1
4073		MANI	02	01	2326	N05	W61	01	28.4			CSO	160	7	9	3
4073		LEAR	02	02	0030	N05	W62	01	28.4		B	CSO	70	5	9	3
4073		RAMY	02	02	1330	N05	W70	01	28.3		B	CAO	190	3	5	3
4073		HOLL	02	02	1546	N05	W75	01	28.0		B	CSO	70	3	3	3
4073		BOUL	02	02	1700	N06	W78	01	27.9		A	HRX	40	1	2	2
4073		PALE	02	02	1815	N05	W78	01	27.9		B	CSO	110	2	3	3
4073		MANI	02	03	0007	N03	W80	01	28.0			HSX	170	1	2	3
4073		LEAR	02	03	0008	N04	W80	01	28.0		A	HSX	50	2	2	3
	23547	MWIL	01	26	1700	N02	E25	01	28.6	2	(B)					
0015	23544	MWIL	01	25	1545	N08	E58	01	30.0	3	(B)					
0015	23544	MWIL	01	26	1700	N10	E45	01	30.1	3	(BP)					
0015		HOLL	01	29	1558	N09	E02	01	29.8		B	BXO	10	2	3	4
0015		PALE	01	29	2000	N09	W01	01	29.8		B	BXO	10	2	2	3
4071		HOLL	01	23	1847	N05	E86	01	30.2		A	HSX	120	1	2	2
4071		PALE	01	23	1930	N05	E86	01	30.2		A	HSX	140	1	2	3
4071		LEAR	01	24	0045	N09	E81	01	30.1		B	CSO	140	3	7	3
4071		RAMY	01	24	1401	N05	E79	01	30.5		B	CAO	250	5	7	2
4071		BOUL	01	24	1600	N05	E71	01	30.0		B	CSO	210	5	5	2
4071		HOLL	01	24	1600	N07	E73	01	30.1		B	CSO	220	5	8	4
4071		PALE	01	24	2348	N07	E68	01	30.1		B	DSO	190	4	7	3
4071		LEAR	01	25	0028	N08	E70	01	30.3		B	CSO	140	4	5	3
4071		RAMY	01	25	1350	N05	E62	01	30.2		BG	CSO	250	11	8	3
4071	23545	MWIL	01	25	1545	N06	E61	01	30.2	5	(BP)					
4071		LEAR	01	26	0206	N06	E55	01	30.2		B	CSO	250	3	4	3
4071		RAMY	01	26	1330	N06	E48	01	30.2		BG	CSO	200	7	7	3
4071		HOLL	01	26	1609	N07	E48	01	30.3		B	CSO	210	5	4	3
4071		BOUL	01	26	1615	N07	E48	01	30.3		A	HSX	60	1	2	2
4071	23545	MWIL	01	26	1700	N06	E48	01	30.3	5	(AP)					
4071		PALE	01	26	1840	N07	E46	01	30.3		B	CSO	170	7	5	4
4071		LEAR	01	27	0204	N05	E42	01	30.2		A	HSX	200	1	2	3
4071		RAMY	01	27	1315	N07	E35	01	30.2		A	HKX	170	1	3	3
4071		PALE	01	27	2030	N06	E32	01	30.3		A	HSX	80	1	2	2
4071		HOLL	01	27	2200	N05	E30	01	30.2		A	HSX	210	1	2	2
4071		LEAR	01	28	0113	N05	E28	01	30.1		B	CSO	190	3	3	3
4071		RAMY	01	28	1310	N04	E23	01	30.3		A	HKX	150	1	3	3

REGIONS OF SUNSPOT ACTIVITY
(ORDERED BY CENTRAL MERIDIAN PASSAGE DATE)

JANUARY 1983

NOAA/ USAF Region	Mt Wilson Region	Sta	Observation Time Mo	Day	(UT)	Lat	CMD	CMP Mo	Day	Max H	Mag Class	Spot Class	Corrected Area (10-6 Hemi)	Spot Count	Long. Extent (Deg)	Qual
4071		BOUL	01	28	1540	N05	E21	01	30.2		A	HSX	160	2	2	3
4071		HOLL	01	28	1550	N06	E21	01	30.2		A	HSX	180	1	2	2
4071	23545	MWIL	01	28	1930	N05	E19	01	30.2	5	AP					
4071		PALE	01	28	2030	N05	E19	01	30.3		A	HSX	210	2	3	3
4071		LEAR	01	29	0011	N05	E16	01	30.2		B	CSO	180	3	3	3
4071		RAMY	01	29	1241	N04	E10	01	30.3		A	HKX	180	1	3	2
4071		HOLL	01	29	1558	N05	E07	01	30.2		A	HSX	160	1	2	4
4071	23545	MWIL	01	29	1600	N05	E07	01	30.2	5	(AP)					
4071	23551	MWIL	01	29	1600	N08	E03	01	29.9	2	(AF)					
4071		PALE	01	29	2000	N05	E06	01	30.3		A	HSX	180	2	4	3
4071		LEAR	01	30	0014	N04	E03	01	30.2		A	HHX	230	1	3	3
4071	23545	MWIL	01	30	1630	N05	W06	01	30.2	5	(AP)					
4071	23551	MWIL	01	30	1630	N07	W13	01	29.7	2	(AF)					
4071		BOUL	01	30	1645	N06	W05	01	30.3		A	HHX	150	2	4	2
4071		PALE	01	30	1906	N05	W08	01	30.2		A	HSX	160	1	2	3
4071		LEAR	01	31	0030	N04	W11	01	30.2		A	HSX	190	1	2	2
4071		RAMY	01	31	1245	N06	W18	01	30.2		A	HSX	190	1	2	4
4071	23545	MWIL	01	31	1545	N04	W29	01	29.5	5	(AP)					
4071	23551	MWIL	01	31	1545	N08	W22	01	30.0	2	(AF)					
4071		HOLL	01	31	1638	N05	W20	01	30.2		A	HSX	180	1	2	3
4071		PALE	01	31	1917	N05	W21	01	30.2		A	HSX	160	1	2	3
4071		LEAR	02	01	0040	N06	W24	01	30.2		A	HSX	150	1	2	3
4071		MANI	02	01	0207	N06	W25	01	30.2			HSX	180	1	2	3
4071	23545	MWIL	02	01	1600	N04	W33	01	30.2	5	(AP)					
4071		HOLL	02	01	1720	N05	W34	01	30.2		A	HSX	240	1	2	3
4071		PALE	02	01	1850	N05	W34	01	30.2		A	HSX	180	1	2	1
4071		MANI	02	01	2326	N05	W38	01	30.1			HSX	220	1	2	3
4071		LEAR	02	02	0030	N05	W37	01	30.3		A	HSX	140	1	2	3
4071		RAMY	02	02	1330	N06	W44	01	30.3		A	HAX	170	1	2	3
4071		HOLL	02	02	1546	N05	W46	01	30.2		A	HSX	180	1	2	3
4071		BOUL	02	02	1700	N08	W46	01	30.3		A	HSX	90	1	2	2
4071		PALE	02	02	1815	N06	W48	01	30.2		A	HSX	200	1	2	3
4071		MANI	02	03	0007	N05	W50	01	30.3			HSX	190	1	2	3
4071		LEAR	02	03	0008	N06	W51	01	30.2		A	HSX	200	2	2	3
4071		RAMY	02	03	1250	N06	W59	01	30.1		A	HAX	160	2	2	3
4071		BOUL	02	03	1610	N07	W59	01	30.3		A	HSX	50	1	1	3
4071		LEAR	02	04	0020	N06	W64	01	30.2		A	HSX	190	2	2	3
4071	23545	MWIL	02	04	1600	N05	W72	01	30.3	4	(AP)					
4071		BOUL	02	04	1630	N07	W77	01	29.9		A	HSX	130	2	2	3
4071		PALE	02	04	2005	N06	W77	01	30.1		A	HSX	140	2	2	3
4071		MANI	02	04	2341	N05	W78	01	30.1			HSX	230	2	2	3
4071		LEAR	02	05	0017	N07	W78	01	30.2		A	HSX	190	2	2	3
4071		RAMY	02	05	1320	N06	W84	01	30.3		A	HAX	30	1	2	3
	23548	MWIL	01	26	1700	N14	E50	01	30.5	3	(AF)					
4074		RAMY	01	25	1350	S18	E81	01	31.7		A	HAX	30	1	2	3
4074	23546	MWIL	01	25	1545	S15	E78	01	31.6	3	(AP)					
4074		LEAR	01	26	0206	S16	E75	01	31.8		A	HRX	20	2	2	3
4074		RAMY	01	26	1330	S17	E70	01	31.9		B	CAO	80	6	9	3
4074		HOLL	01	26	1609	S15	E69	01	31.9		B	DSO	80	5	10	3
4074		BOUL	01	26	1615	S15	E64	01	31.5		B	DSO	20	2	1	2
4074	23546	MWIL	01	26	1700	S16	E66	01	31.7	4	(BP)					
4074		PALE	01	26	1840	S15	E68	01	31.9		B	CSO	60	5	9	4
4074		LEAR	01	27	0204	S17	E63	01	31.9		B	CSO	30	5	10	3
4074		RAMY	01	27	1315	S13	E59	02	1.0		B	CAO	40	6	9	3
4074		PALE	01	27	2030	S16	E54	02	1.0		B	CSO	50	3	8	2
4074		HOLL	01	27	2200	S15	E54	02	1.0		B	BXO	30	9	12	2
4074		LEAR	01	28	0113	S16	E53	02	1.1		B	CRO	30	11	9	3
4074		RAMY	01	28	1310	S17	E44	01	31.9		B	CAO	30	6	10	3
4074		BOUL	01	28	1540	S15	E40	01	31.7		A	HRX	20	1	1	3
4074		HOLL	01	28	1550	S15	E45	02	1.1		B	BXO	20	6	12	2
4074	23546	MWIL	01	28	1930	S16	E45	02	1.2	4	B					
4074		PALE	01	28	2030	S17	E38	01	31.7		A	HSX	20	1	1	3
4074		LEAR	01	29	0011	S16	E39	02	1.0		B	CRO	20	10	9	3
4074		RAMY	01	29	1241	S18	E33	02	1.0		B	CSO	60	8	10	2
4074		HOLL	01	29	1558	S17	E29	01	31.9		B	BXO	60	14	15	4
4074	23546	MWIL	01	29	1600	S17	E32	02	1.1	4	(B)					
4074		PALE	01	29	2000	S18	E28	02	1.0		B	CRO	60	13	12	3
4074		LEAR	01	30	0014	S18	E27	02	1.1		B	CSO	50	11	11	3
4074	23546	MWIL	01	30	1630	S16	E18	02	1.1	3	(B)					

REGIONS OF SUNSPOT ACTIVITY
(ORDERED BY CENTRAL MERIDIAN PASSAGE DATE)

JANUARY 1983

NOAA/ USAF Region	Mt Wilson Region	Sta	Observation Time Mo	Day	(UT)	Lat	CMD	CMP Mo	Day	Max H	Mag Class	Spot Class	Corrected Area (10-6 Hemi)	Spot Count	Long. Extent (Deg)	Qual
4074		BOUL	01	30	1645	S15	E20	02	1.2		B	ESO	10	11	14	2
4074		PALE	01	30	1906	S16	E16	02	1.0		B	CSO	20	4	9	3
4074		LEAR	01	31	0030	S17	E13	02	1.0		B	CSO	50	12	12	2
4074		RAMY	01	31	1245	S17	E01	01	31.6		B	CAO	20	12	10	4
4074		HOLL	01	31	1638	S18	E02	01	31.8		B	BXO	40	10	14	3
4074		PALE	01	31	1917	S17	W05	01	31.4		B	BXO	20	4	6	3
4074		LEAR	02	01	0040	S16	W02	01	31.9		B	BXO	80	17	20	3
4074		MANI	02	01	0207	S16	W02	01	31.9			ERO	40	16	14	3
4074	23546	MWIL	02	01	1600	S16	W07	02	1.1	3	(B)					
4074		HOLL	02	01	1720	S15	W10	02	1.0		B	BXO	60	20	11	3
4074		PALE	02	01	1850	S18	W17	01	31.5		B	BXO	20	4	3	1
4074		MANI	02	01	2326	S16	W14	01	31.9			BXO	40	10	12	3
4074		LEAR	02	02	0030	S16	W15	01	31.9		B	BXO	40	9	12	3
4074		HOLL	02	02	1546	S15	W22	02	1.0		B	CRO	40	18	15	3
4074		BOUL	02	02	1700	S13	W20	02	1.2		B	BXO	20	10	15	2
4074		PALE	02	02	1815	S14	W28	01	31.6		B	BXO	10	3	2	3
4074		MANI	02	03	0007	S17	W32	01	31.6			BXO	20	6	8	3
4074		LEAR	02	03	0008	S15	W26	02	1.0		B	BXO	10	14	15	3
4074		RAMY	02	03	1250	S15	W38	01	31.7		A	AXX	10	4	1	3
4074		BOUL	02	03	1610	S12	W31	02	1.3		B	BXO	10	3	13	3
4074		LEAR	02	04	0020	S14	W35	02	1.4		B	BXO		2	6	3
4074		BOUL	02	04	1630	S13	W45	02	1.3		A	AXX	10	2	1	3
4074		PALE	02	04	2005	S13	W45	02	1.4		A	AXX	10	2	1	3
4074		LEAR	02	05	0017	S13	W46	02	1.5		A	AXX	10	1		3
4074		RAMY	02	05	1320	S13	W54	02	1.5		A	AXX	20	2	2	3
4074		HOLL	02	05	1522	S15	W55	02	1.5		B	BXO	10	2	3	3

SUDDEN IONOSPHERIC DISTURBANCES

January 1983

Day	Start (UT)	Max (UT)	End (UT)	Imp	Wide-spread Index	Number of Station Reports by Type					Known Flare	NOAA/SESC Region
						SWF	SEA	SPA	LF-SPA	SES		
01	0041	0048	0210	1	3	1		1	1	2	0044	4033
01	0944	0951	1124	1	3		2	1	1	2	0942	4033
01	2256	2300	2336	1-	3			1		2	2257	4033
01	2300	2307	2320	1-	1					1	2300E	4033
02	0157	0208	0342	2+	5	1		1	1	3	0202E	4033
02	2333	2346	0027	1-	1			1			2346	X-ray
04	1400	1406	1430	1	1					1	1349	X-ray
05	0055	0057	0105	1-	1					1	0053	X-ray
05	0330	0358	0447	1-	3			1	1	1	0329	4048
05	0515	0525	0545	1-	1			1			0518	No data
05	0548	0554	0642	1-	3			1		2	0545	X-ray
06	1212	1223	1240	1	1		1				1220	No data
06	2118	2130	2255	1-	1			1			*	
07	0206	0210	0235	1-	3	1		1	1	2	0206	4051
07	0300	0310	0340	1-	1				1		NF	
07	0400	0415	0600	1-	1				1		NF	
07	0507	0518	0556	1-	1			1			0508	4051
07	1203	1227U	1257	1	1		1				1208	4048
07	1333	1343	1406U	1	1		1			1	1330	4041
07	2043	2045	2100	1-	1						NF	
08	0256	0300	0328	1-	1			1			0254	4053
08	0424	0427	0450	1-	2			1	1		0422	4053
08	0826	0836	0858	1-	1			1			0823	X-ray
08	1610	1615	1645	1+	3					2	1608	X-ray
09	0046	0052	0122	1-	3			1		1	0046	4046
09	0146	0146U	0150	1-	1				1		0144	4046
09	0216	0223	0304	1-	3			1	1	1	0215	4053
09	1636	1646	1720	1-	1					1	1646	4054
09	1838	1840	1930	1-	3					4	1836E	4046
10	0855	0900	0908	2	1	1					NF	
11	1045	1053	1115	1-	1					1	1053	X-ray
12	1045	1052	1141	1-	3		1	1			1044E	No data
12	1854	1917	1940	1-	3			1		1	1906	No data
12	2115	2134	2212	1-	3			1		4	2117	No data
13	1545	1552	1615	1-	3					2	1549	No data
13	1823	1827	1900	2	1					1	1811	No data
14	1337	1357	1445	1-	3					2	NF	
14	2217	2223	2256	1-	1			1			*	
15	0052	0057	0124	1-	1			1			0046	4061
15	1547	1614	1730	1+	3					4	NF	
15	1911	1930	2000	1-	3					4	NF	
15	2206	2215	2241	1-	1			1			NF	
16	0603	0625	0753	1-	3			1		1	0601	X-ray
16	1826	1845	2030	1	3	1				5	*	
16	2257	2259	2303	1-	3			1		1	2257	4064
16	2325E	2330	0030	1-	3			1		3	2323	4064
17	0304	0308	0324	1-	3			1	1		0258	4064
17	0343	0350	0403U	1-	1				1		0345	4064
17	0401	0409	0433	1-	1			1			0345	4064
17	1330	1335	1358	1	3		2				*	

SUDDEN IONOSPHERIC DISTURBANCES

January 1983

Day	Start (UT)	Max (UT)	End (UT)	Imp	Wide-spread Index	Number of Station Reports by Type SWF	SEA	SPA	LF-SPA	SES	Known Flare	NOAA/SESC Region
17	1838	1858	1915	1	3					8	NF	
18	1029	1040U	1059	1	1		1				NF	
18	1352U	1359	1417	1	1		1				1349	No data
20	0144	0200	0230	1-	3					2	NF	
20	0515	0543	0610	1	1					1	NF	
21	0640	0655	0746	1-	3			1		2	0640	No data
22	2040	2046	2120	1	1					1	NF	
22	2224	2244	2318	1-	1			1			2222E	4060
23	0536	0543	0622	1-	1			1			0534	X-ray
23	1622	1623	1645	1	1					1	*	
23	1821	1825	1840	1	1					1	*	
23	1940	1943	2000	1	1					1	NF	
23	2012	2015	2040	1	1					1	NF	
24	1804	1807	1830	1+	1					1	1802	No data
24	2012	2018	2030	1-	3					3	*	
24	2123	2126	2140	1-	3					3	2120	X-ray
25	0646	0652	0730	1-	1			1			0642	X-ray
25	2058	2101	2129	1	1	1					NF	
26	0427	0434	0450	1-	1				1		NF	
26	1518		1541	2	1	1					NF	
27	0047	0051	0122	1-	1			1			NF	
27	0236	0244	0312	1-	3			1	1	1	0237	4075
27	0330	0347	0524	1	3	1		1	1	1	0330	4075
27	0652	0702	0724	1-	1			1			NF	
27	2100	2105	2132	1	1	1					*	
27	2301	2307	2333	1-	1			1			*	
28	0309	0314	0324U	1-	1				1		NF	
28	0830	0834U	0855	1	1		1				NF	
28	0854	0905	0938	1	1		1				NF	
29	0507	0510	0550	1-	3		1			2	0509E	4075
29	0813	0820	0849	1-	1			1			0816	X-ray
29	1622	1624	1640	1-	1					1	1629	4070
29	1933	1936	1953	1	3					6	1937E	4075
29	2101	2103	2115U	1-	1	1					NF	
30	2300	2304	2326	1-	1			1			2301	No data
31	1140	1152	1200	1	1		1				1144E	4072

* = No Flare Patrol
NF = No Flare Reported
X-ray = Event observed only at X-ray wavelengths

OBSERVATORIES REPORTING FOR JANUARY 1983*

Ayrshire, Scotland (AY)	SES	Lintong, China (LT)	SPA
Darmstadt, GFR (DA)	SWF	Maui, Hawaii, USA (MI)	SWF
Edenvale, South Africa (A52)	SES	Missoula, Montana, USA (A31)	SES, SWF
Glenorchy, Tasmania, Australia (GN)	SES	Panska Ves, Czechoslovakia (PU)	SEA, SWF
Hiraiso, Japan (HI)	SWF	Portage, Michigan, USA (A51)	SES
Hobart, Tasmania, Australia (TA)	SEA	San Antonio, Texas, USA (SA)	SES
Houston, Texas, USA (A50)	SES	St. Cloud, Minnesota, USA (SC)	SES
Huancayo, Peru (HU)	SWF	Tavares, Florida, USA (A49)	SES
Inubo, Japan (IN)	SPA	Trenton, New Jersey, USA (NJ)	SES
Juilusruh, GDR (JU)	SWF	Upice, Czechoslovakia (UI)	SEA
Kuhlungsborn, GDR (KU)	SPA, SEA	Valley Cottage, New York, USA (A01)	SES
Lake Hiawatha, New Jersey, USA (A32)	SES	Vsetin, Czechoslovakia (VS)	SEA
Latrobe, Pennsylvania, USA (A19)	SES	Walla Walla, Washington, (USA) (A55)	SES

*Observations are not necessarily continuous for each reporting station.

SIDs by NOAA/SESC REGION

Day	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31
Region Number																															
4033	4	1																													
4041							1																								
4046									3																						
4048					1		1																								
4051							2																								
4053								2	1																						
4054									1																						
4060																						1									
4061															1																
4064																2	3														
4070																													1		
4072																															1
4075																											2		2		
X-Ray		1		1	2			2			1					1							1	1	1				1		
No Flare							3			1				1	3		1	1		2			2		1	2	2	3	1		
No Flare Patrol						1								1		1	1						2	1			2				
No Data					1	1						3	2					1			1	1		1						1	
Event Totals	4	2	0	1	4	2	7	4	5	1	1	3	2	2	4	4	5	2	0	2	1	2	5	3	2	2	6	3	5	1	1

SOLAR RADIO EMISSION
SPECTRAL OBSERVATIONS

JANUARY 1983

Day	Observation Start (UT)	Observation End (UT)	Sta	Decimetric Band Start (UT)	Decimetric Band End (UT)	Decimetric Band Int (1-3)	Metric Band Start (UT)	Metric Band End (UT)	Metric Band Int (1-3)	Dekametric Band Start (UT)	Dekametric Band End (UT)	Dekametric Band Int (1-3)	Spectral Type
01	0000	0735	CULG				0002.5	0638.5	1				IIIN
			LEAR				0028.6	0030.3	1				III
			CULG				0131.0		2				IIIB,U
			LEAR				0131.1	0131.3	1				III
			LEAR				0148.6	0149.1	2				III
			CULG				0149.0		3				IIIG
			CULG	0210.0	0213.0	1							IS
			CULG				0321.5	0323.0	3				IIIG,V
			LEAR				0321.6	0326.1	2				III
			LEAR				0402.3	0403.0	1				III
			CULG				0402.5	0403.0	3				IIIG,U
			LEAR				0442.6	0443.1	1				III
			LEAR				0524.3	0524.8	1				III
			CULG				0529.5	0330.0	3				IIIG
			LEAR				0529.8	0524.8	1				III
			LEAR				0529.8	0530.8	2				V
			LEAR				0625.5	0630.0	1				III
			CULG				0629.5		2				IIIB
			LEAR				0827.5	0827.6	1				III
	0757	1455	WEIS				0828.6	0828.8	2				IIIB
			WEIS				0912.8	0918.8	3				IIIGG
	0830	1455	BLEN				0913.5	1455.0D	2				IN
			LEAR				0913.5	0918.1	2				III
			WEIS				1144.3	1146.0	3				IIIGG
			WEIS				1151.4	1155.3	3				IIIGG
			WEIS				1217.2	1217.3	1				IIIB
			WEIS				1220.9	1221.3	1				IIIB
			WEIS				1222.7	1222.9	2				IIIG
			WEIS				1246.8	1247.1	2				IIIG
			WEIS				1344.0	1344.2	1				IIIB
			WEIS				1358.9	1359.2	1				IIIB
			WEIS				1406.5	1406.6	2				IIIB
			SGMR				1444.6	1445.1	1				V
			WEIS				1444.8	1445.3	3				IIIB
			PALF				1958.1	1959.0	2				III
			SGMR				1958.6	1958.8	1				III
	2036	2400	CULG				2118.0	2146.0	1				IIIN
			CULG				2257.5	2258.5	1				IIIG
			CULG				2311.5	2327.5	1				II
			LEAR				2320.6	2323.8	1				UNCLF
02			LEAR				0042.8	0047.1	1				III
			LEAR				0112.8	0117.1	1				III
	0000	0717	CULG				0113.0		2				IIIB
			CULG				0116.5		1				IIIB
			LEAR				0142.8	0147.1	1				III
			CULG	0158.0	0200.0	1	0158.5	0200.0	1				IS
			CULG				0207.5	0210.5	1				II
			LEAR				0207.6	0211.6	1				II
			LEAR				0417.3	0418.6	1				III
			CULG				0417.5	0416.5	2				IIIG,U
			CULG				0610.5	0630.0	2				IIIN
			LEAR				0611.5	0614.3	1				III
	0757	1456	WEIS										
	0830	1450	BLEN										
			SGMR				1542.1	1542.6	1				V
	2036	2400	CULG										
03	0000	0736	CULG				0038.0		2				IIIB,U
			LEAR				0347.3	0347.8	1				III
			CULG				0347.5		1				IIIB
			CULG				0458.5	0459.5	1				IIIG
			LEAR				0650.8	0651.8	1				III
			CULG	0651.0		1	0651.0	0651.5	3				IIIG
	0757	1322	WEIS										
	0850	1450	BLEN										
	1326	1457	WEIS										
			LEAR				2317.6	2317.8	1				III
			CULG				2324.5		1				IIIB
			CULG				2338.5		1				IIIB
04	0000	0736	CULG				0002.0	0450.5	1				IIIN

SOLAR RADIO EMISSION
SPECTRAL OBSERVATIONS

JANUARY 1983

Day	Observation Start (UT)	Observation End (UT)	Sta	Decimetric Band Start (UT)	Decimetric Band End (UT)	Decimetric Band Int (1-3)	Metric Band Start (UT)	Metric Band End (UT)	Metric Band Int (1-3)	Dekametric Band Start (UT)	Dekametric Band End (UT)	Dekametric Band Int (1-3)	Spectral Type
04			LEAR				0004.0	0004.1	1				III
			LEAR				0137.3	0137.6	1				III
			LEAR				0156.8	0200.3	2				III
			CULG				0158.5	0200.0	3	0159.0	0201.0	2	IIIG
			LEAR				0324.8	0325.3	1				III
			CULG				0325.0	0353.0	2				IIIN
			LEAR				0329.8	0330.6	2				III
			LEAR				0339.1	0339.3	1				III
			LEAR				0353.3	0356.6	2				III
			CULG				0353.5	0355.5	3	0354.5	0356.0	2	IIIG,V
			CULG				0657.0	0657.5	1				IIIG
			LEAR				0657.1	0657.5	1				III
			LEAR				0749.3	0749.5	1				III
	0850	1020	BLEN										
			LEAR				0924.8	0925.1	1				III
	0757	1458	WEIS				1146.8	1146.9	2				IIIB
			WEIS				1416.2	1416.7	2				IIIG
			WEIS				1424.9	1425.1	1				IIIB
			SGMR				1430.6	1431.0	1				V
			WEIS				1430.8	1431.5	3				IIIG
			WEIS				1437.7	1438.6	1				IIIG
	2037	2400	CULG				2147.0		1				IIIG,U
			CULG				2310.5	2311.0	1				IIIB,Z
			LEAR				2310.6	2310.8	1				III
05	0000	0737	CULG				0046.0	0544.0	1				IIIN
			LEAR				0046.0	0046.3	1				III
			LEAR				0116.6	0117.1	1				III
			LEAR				0157.3	0159.3	1				III
			LEAR				0256.1	0258.3	1				III
			CULG				0324.5	0325.5	3				IIIG
			LEAR				0324.6	0326.1	2				III
			LEAR				0404.1	0404.8	1				III
			LEAR				0422.8	0423.5	1				III
			CULG				0555.0	0557.0	3	0555.5	0557.0	2	IIIG,V
			CULG				0558.5		3				IIIB
	0756	1449	WEIS				0803.7	0803.9	1				IIIB
			WEIS				1149.9	1150.3	2				IIIG
			WEIS				1231.7	1231.9	1				IIIB
			SGMR				1321.5	1322.8	1				V
			WEIS				1321.6	1323.6	3				IIIG
	1228	1500	BLEN				1331.5	1332.4	3				I
			PALE				1851.0	1851.6	2				III
			SGMR				1851.0	1851.6	2				V
			PALE				2036.1	2037.6	2				V
			SGMR				2036.1	2037.1	1				V
	2037	2400	CULG				2037.0	2038.0	2				IIIG,V
			CULG				2249.5	2250.0	1				IIIG
06	0000	0737	CULG										
			LEAR				0208.5	0208.6	1				III
	0830	1036	BLEN				0847.0	1036.0	1				IN
	1120	1235	BLEN										
	0756	1218	WEIS				1120.5	1120.7	2				IIIB
	1251	1459	WEIS				1403.2	1403.3	1				IIIB
			WEIS				1442.8	1450.0	2				I
			PALE				1851.8	1855.8	2				III
			PALE				1858.6	1904.3	2				III
			PALE				2031.5	2036.3	2				III
	2039	2400	CULG				2037.0	2057.5	2				IIIG
			PALE				2047.3	2050.3	3				III
			PALE				2052.8	2056.8	3				III
			CULG				2213.0		2				IIIB
07	0000	0738	CULG										
			LEAR				0652.8	0653.3	1				III
			LEAR				0833.8	1055.0	1				CONT
	0756	1501	WEIS				1130.1	1130.2	1				IIIB
			WEIS				1142.3	1150.6	2				IIIGG
			WEIS				1154.9	1155.2	2				IIIG
			WEIS				1157.3	1205.3	1				IIIG

SOLAR RADIO EMISSION
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Day	Observation Start (UT)	Observation End (UT)	Sta	Decimetric Band Start (UT)	Decimetric Band End (UT)	Decimetric Band Int (1-3)	Metric Band Start (UT)	Metric Band End (UT)	Metric Band Int (1-3)	Dekametric Band Start (UT)	Dekametric Band End (UT)	Dekametric Band Int (1-3)	Spectral Type
07	1228	1500	BLEN										
			WEIS				1232.1	1232.3	2				IIIB
			WEIS				1237.1	1237.3	1				IIIG
			WEIS				1248.3	1248.8	1				IIIG
	2038	2400	CULG				2038.5	2142.0					IS,W
			CULG				2220.0	2237.0	1				IIIN
08	0000	0738	CULG				0231.5	0301.0	2				IIIN
			LEAR				0254.3	0301.3	1				G
			LEAR				0254.3	0301.3	1				III
			CULG				0421.0	0422.0	2				IIIG
			LEAR				0421.1	0429.0	1				III
			CULG				0508.5		2				IIIB
			CULG				0527.5	0528.5	2				IIIG
			CULG				0615.5	0624.0	2				IIIN
			LEAR				0714.5	0715.8	1				III
			LEAR				0825.5	0827.1	1				III
	0830	1350	BLEN										
	0755	1503	WEIS				0905.6	0907.0	2				IIIGU
			LEAR				0906.8	0907.0	1				III
			WEIS				0930.9	0931.2	2				IIIG
			LEAR				0931.0	0931.3	1				III
	2040	2400	CULG				2055.0		1				IIIB
			LEAR				2156.6	2201.3	1				III
			CULG				2206.0	2210.5	1				IIIS
			CULG				2344.5	2345.0	1	2344.5	2345.0	1	IIIG
			LEAR				2344.6	2344.8	1				III
09			LEAR				0417.3	0418.3	1				III
	0000	0659	CULG				0418.0		1				IIIB
			LEAR				0748.8	0750.1	1				III
			LEAR				0902.3	0903.3	1				III
	0754	1129	WEIS				0902.3	0903.2	2				IIIG
			LEAR				1005.1	1006.1	1				III
			WEIS				1005.3	1006.2	3				IIIGU
	2039	2400	CULG				2351.0		1				IIIB
10	0000	0439	CULG										
	0754	1506	WEIS										
	2040	2400	CULG										
11	0000	0733	CULG										
	0753	1506	WEIS										
	2041	2400	CULG										
12	0000	0740	CULG				0304.0	0304.5	2				IIIG
	0753	1032	WEIS										
	1036	1204	WEIS										
	1221	1300	WEIS										
	1310	1508	WEIS				1320.0	1320.8	1				IIIG
			WEIS				1322.7	1323.0	1				IIIG
			WEIS				1455.4	1455.7	1				IIIG
	2040	2400	CULG										
13	0000	0730	CULG				0202.5		2				IIIG
			LEAR				0202.5	0207.8	1				III
			CULG				0206.5	0207.6	1				IIIG
			LEAR				0414.3	0418.8	1				III
			CULG				0414.5	0415.0	3				IIIB,U
			CULG				0418.5		1				IIIB,U
			LEAR				0504.8	0507.3	1				III
			CULG				0505.0	0507.0	2				IIIG
			CULG				0608.0	0609.0	1				IIIG
			LEAR				0608.6	0608.8	1				III
			LEAR				0636.3	0636.8	1				III
			CULG				0636.5		1				IIIG
			CULG				0723.5	0724.0	1				IIIG
			LEAR				0723.5	0723.6	1				III
	0756	1508	WEIS				1307.9	1309.1	1				IIIG
	2040	2400	CULG				2053.5	2155.0	1				IIIN
14			LEAR				0210.8	0211.0	1				III

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14	0000	0741	CULG				0211.0	0532.0	1				III N
			LEAR				0213.0	0213.8	1				V
			LEAR				0250.0	0254.3	1				III
			CULG				0258.5		2				III B
			LEAR				0352.1	0352.5	1				III
			CULG				0352.5		2				III G
	0755	1513	WEIS										
	2041	2400	CULG				2055.0	2055.5	1				III B
			PALE				2101.0	2109.1	2				III
15	0000	0741	CULG				0052.0	0055.0	1				II H
			LEAR				0052.6	0053.3	1				III
			LEAR				0148.3	0150.5	1				III
			CULG				0148.5	0215.0	1				III N
			CULG				0509.0	0519.0	1				III N
			LEAR				0518.6	0518.8	1				III
	0811	0837	WEIS										
	0905	1545	WEIS										
			PALE				1948.5	1948.6	1				III
	2041	2400	CULG				2046.0		1				III B
16	0000	0742	CULG				0121.5	0122.0	3				III G,U
			LEAR				0121.5	0122.0	2				III
			LEAR				0200.8	0201.3	1				III
			CULG				0201.0	0201.5	1				III G
			CULG				0409.5		1				III B
			LEAR				0435.3	0436.1	2				III
			CULG				0435.5	0436.0	3				III G
			CULG				0532.5	0533.5	2				III G
			LEAR				0532.6	0533.3	1				III
			LEAR				0605.3	0606.0	1				III
			CULG				0605.5	0606.0	1				III G
			LEAR				0627.6	0630.1	1				III
			CULG				0628.0	0629.5	1				III G
			LEAR				0830.8	0831.1	2				III
	1000	1515	WEIS										
	2047	2400	CULG				2159.5		2				III B,U
			CULG				2300.5	2301.0	3				III G,U
			CULG	2301.0	2302.0	2							DCIM
			CULG				2301.5	2302.0	1				III G
17	0000	0742	CULG				0103.0	0233.0	1				III N
	0802	1520	WEIS				1134.2	1137.9	2				III GG
	2042	2400	CULG				2110.0		1				III B
			CULG				2118.5	2119.5	3				III G,V
			CULG				2137.0	2343.0	1				III S
			CULG				2150.0	2400.0	1				IS
			CULG				2156.0		2				III B
			LEAR				2326.1	2327.1	1				III
18	0000	0742	CULG				0000.0	0148.5	1				IS,DC
			CULG				0101.0	0403.0	1				III N
			LEAR				0122.3	0122.8	1				III
			CULG				0139.5	0140.5	2				III G,U
			LEAR				0139.5	0140.6	1				III
			LEAR				0300.3	0301.6	1				III
			CULG				0342.0	0430.0	1				IS,DC
			LEAR				0351.3	0434.0	1				CONT
			CULG				0408.0	0418.5	1				III S
			LEAR				0754.8	0755.1	1				III
			LEAR				0847.0	0847.1	1				III
	0756	1517	WEIS				1332.7	1333.7	3				III G
	2042	2400	CULG										
19	0000	0742	CULG				0240.0	0241.0	1	0240.0	0240.5	1	III G
			CULG				0319.5		1				III B
			LEAR				0319.5	0320.1	1				III
			LEAR				0530.6	0531.3	1				III
			CULG				0531.0		1				III B
			CULG				0619.0	0619.5	1				III G
			LEAR				0715.8	0716.1	1				III

SOLAR RADIO EMISSION
SPECTRAL OBSERVATIONS

JANUARY 1983

Day	Observation Start (UT)	Observation End (UT)	Sta	Decimetric Band Start (UT)	Decimetric Band End (UT)	Decimetric Band Int (1-3)	Metric Band Start (UT)	Metric Band End (UT)	Metric Band Int (1-3)	Dekametric Band Start (UT)	Dekametric Band End (UT)	Dekametric Band Int (1-3)	Spectral Type
19			LEAR				0743.0	0743.3	1				III
			LEAR				0828.6	0846.0	1				II
	0747	1519	WEIS				0831.3	0835.8	2				II
	2042	2400	CULG										
20			LEAR				0243.0	0244.5	1				UNCLF
	0000	0743	CULG				0649.0		1				IIIB
	0746	1256	WEIS										
	0830	1530	BLEN										
	1300	1520	WEIS										
	2043	2400	CULG				2101.5	2219.0	1				IIIN
21	0000	0703	CULG				0041.0		1				IIIB
			CULG	0058.5	0142.0								IS,W
			LEAR				0135.0	0300.0	1				CONT
			CULG				0305.0		1				IIIB
			CULG				0606.0		1				IIIB
	0744	1520	WEIS										
	0830	1530	BLEN										
	2045	2400	CULG				2058.0		1				IIIB
			CULG	2122.5	2234.0	1							IN
			CULG				2327.5	2332.5	1				IIIN
			CULG	2339.0	2400.0	1							IS
22	0000	0743	CULG	0000.0	0141.5	1	0002.0	0133.5	1				IS
			CULG				0335.0		2				IIIB
			LEAR				0335.1	0341.6	1				III
			CULG				0340.5	0341.5	2				IIIG
			CULG				0732.5		1				IIIB,U
			LEAR				0732.6	0737.1	1				III
			CULG				0737.0		1				IIIB,U
	0825	1535	BLEN				0838.0	1535.0	1				IN
			LEAR				0846.8	0847.5	1				III
	0743	1523	WEIS				0847.0	0847.3	1				IIIB
			LEAR				0923.6	0924.0	1				III
			WEIS				1038.4	1041.0	3				IIIGGU
			BLEN				1039.2	1040.1	3				IIIG
			WEIS				1118.8	1119.0	1				IIIB
			WEIS				1158.8	1159.1	2				IIIG
			WEIS				1204.8	1205.1	2				IIIB,U
			WEIS				1332.8	1333.1	3				IIIB
			WEIS				1358.7	1359.1	2				U
			WEIS				1407.3	1408.6	2				IIIG
			BLEN				1408.3	1408.6	2				IIIG
	2044	2400	CULG				2249.5	2250.0	3	2250.0		1	IIIB,U
			LEAR				2348.3	2350.1	1				III
			CULG				2348.5	2350.5	3	2349.0	2350.5	1	IIIG,U
			CULG	2348.5	2349.5	1							IS
23			LEAR				0210.3	0210.6	1				III
	0000	0743	CULG				0210.5		1				IIIB,U
			LEAR				0336.3	0336.6	1				III
			CULG				0336.5		2	0336.5		1	IIIB
			CULG				0451.5		1				IIIB,U
			CULG				0556.5		2				IIIB
			CULG				0642.0		1				IIIB,U
	0743	0935	WEIS										
	0825	1535	BLEN				0949.5	0949.8	2				I
	1009	1525	WEIS				1051.6	1051.7	1				IIIB
			BLEN	1114.3	1114.5	2							DCIM
			WEIS				1122.2	1123.0	1				IIIG
			WEIS				1126.9	1128.1	3				IIIGG
			BLEN	1158.5	1158.6	1							DCIM
			BLEN				1414.5	1423.4	3				IIIG
	2044	2400	CULG	2114.5	2115.0	3	2114.5	2115.5	3				IIIG,V
			PALE				2114.6	2115.1	1				III
			CULG				2144.5	2346.0	1				IIIN
			LEAR				2226.6	2228.3	1				III
			CULG	2228.0	2228.5	2	2225.5	2230.0	3				IIIG,N
			CULG	2237.0		2	2237.0		2				IIIB,U
			LEAR				2320.3	2320.8	1				III

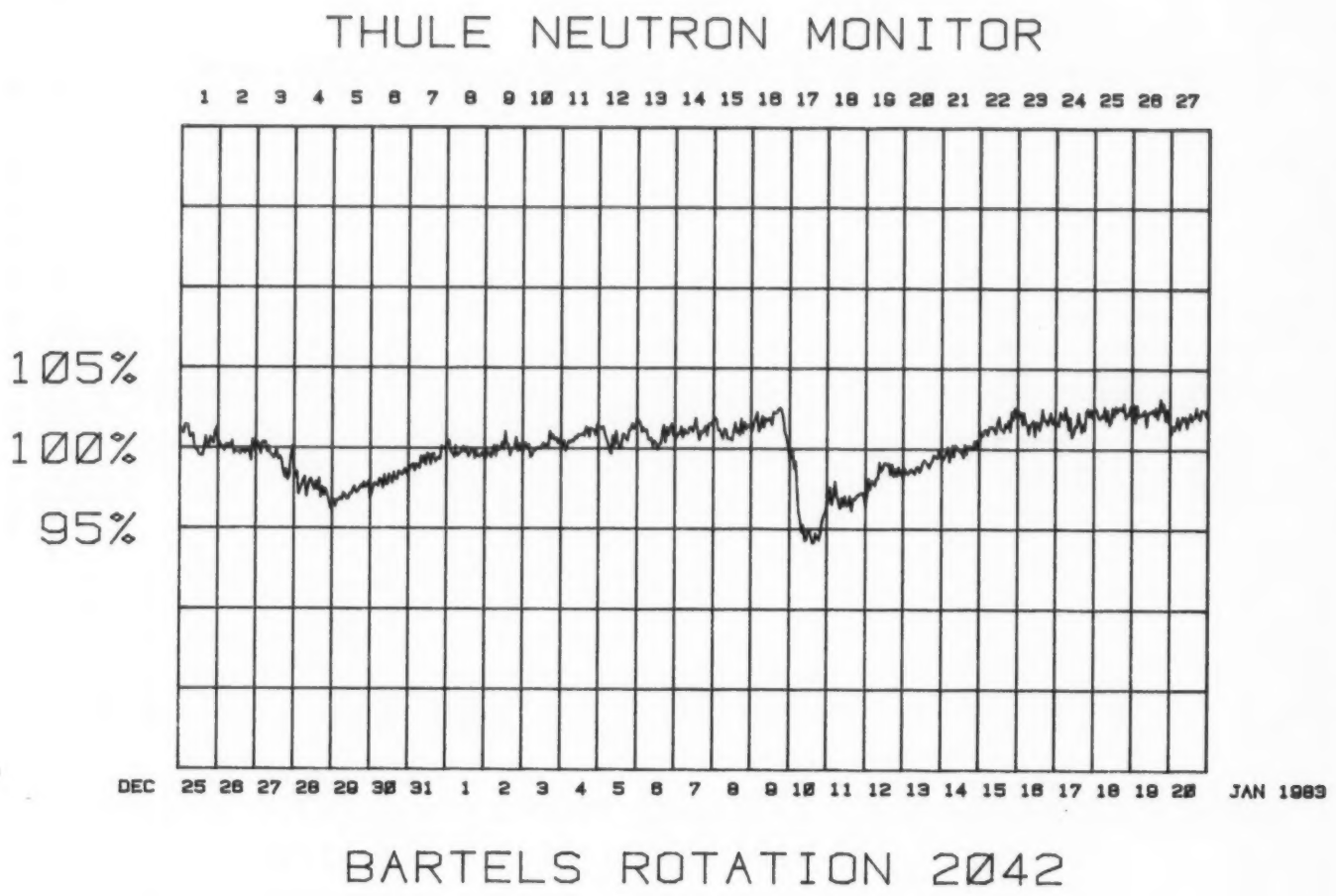
JANUARY 1983

Day	Observation Start (UT)	Observation End (UT)	Sta	Decimetric Band Start (UT)	Decimetric Band End (UT)	Decimetric Band Int (1-3)	Metric Band Start (UT)	Metric Band End (UT)	Metric Band Int (1-3)	Dekametric Band Start (UT)	Dekametric Band End (UT)	Dekametric Band Int (1-3)	Spectral Type
23			CULG				2320.5	2321.0	2				IIIG
			LEAR				2345.3	2346.3	1				III
			LEAR				2348.3	2350.1	1				III
24			LEAR				0029.8	0030.6	1				III
			LEAR				0149.1	0152.3	1				III
	0000	0744	CULG	0151.0	0151.5	1	0149.5	0151.5	1				IIIG,U
			LEAR				0239.8	0240.5	1				III
	0000	0744	CULG				0240.5		1				IIIB
			CULG				0445.5		1				IIIB
			CULG				0511.5		2				IIIB
	0742	1526	WEIS				1033.6	1033.8	1				IIIB
	0820	1540	BLEN				1122.2	1122.5	3				IIIB
	2044	2400	CULG										
			LEAR				2345.3	2346.3	1				III
25	0000	0744	CULG										
	0820	1540	BLEN										
	0740	1428	WEIS				1002.8	1003.1	2				IIIB
	1435	1528	WEIS										
	2105	2400	CULG										
26	0000	0744	CULG										
	0738	1516	WEIS										
	0820	1206	BLEN										
	2111	2400	CULG										
27	0000	0744	CULG										
	0737	1539	WEIS										
	1313	1540	BLEN				1337.0	1430.0	2				IN
	2045	2400	CULG										
28	0000	0745	CULG										
	0735	1038	WEIS										
	0820	1540	BLEN				0825.0	1540.0	3				IN
	1043	1249	WEIS										
	1310	1536	WEIS										
	2045	2400	CULG	2045.0	2143.5	1							IN
29	0000	0745	CULG	0012.0		2	0012.0		2				IIIG
			CULG	0533.5		1	0533.5		3				IIIG,U
	0733	1538	WEIS										
	0820	1540	BLEN				0920.0	1412.0	1				IN
	2045	2400	CULG	2200.0	2400.0	1	2113.0	2400.0	1				IS
30	0000	0745	CULG	0000.0	0735.0	1	0000.0	0745.0	1				IS
	0732	1538	WEIS										
	0820	1540	BLEN				0820.0	1540.0	2				IN
	2045	2400	CULG				2059.0	2116.0	1				IIIN
	2036	2400	CULG				2317.5		2				IIIB
31			LEAR				0411.8	0414.3	2				III
	0000	0745	CULG				0412.0	0414.5	3	0412.5	0414.0	2	IIIG,V
	0752	1541	WEIS										
	0810	1540	BLEN				0945.0	1450.0	1				IN
	2047	2400	CULG	2047.0	2229.0								IS,W
			CULG				2152.5	2155.0	1				IIIN
			CULG	2229.0	2315.0	1							IS
			CULG	2315.0	2336.0								IS,W
			CULG				2336.0		1				IIIB

The symbols used under the column heading SPECTRAL TYPE have the following definitions:

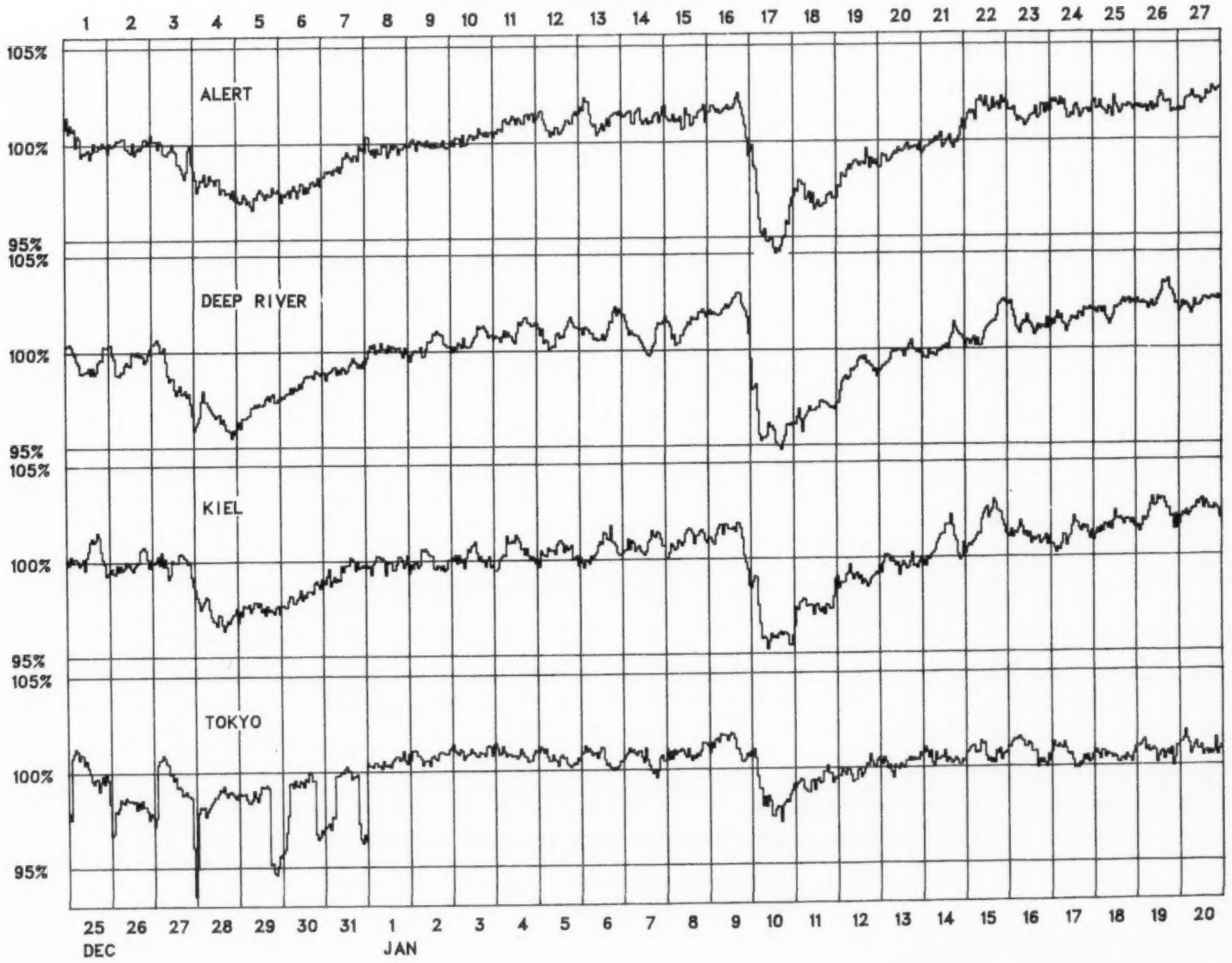
B = Single burst
G = Small group (< 10) of bursts
GG = Large group (> 10) of burst
C = Underlying continuum (particularly with Type I)
S = Storm in the sense of intermittent but apparently connected activity
N = Intermittent activity in this period
U = U-shaped burst of Type III

RS = Reverse slope burst
DP = Drifting pairs
DC = Drifting Chains
H = Herringbone
W = Weak
P = Pulsations
CONT = Continuum
UNCLF = Unclassified activity
DCIM = Fast drift


THULE NEUTRON MONITOR
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27
105%
100%
95%
DEC 25 26 27 28 29 30 31 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 JAN 1983
BARTELS ROTATION 2042

COSMIC RAY INDICES
(Neutron Monitor)

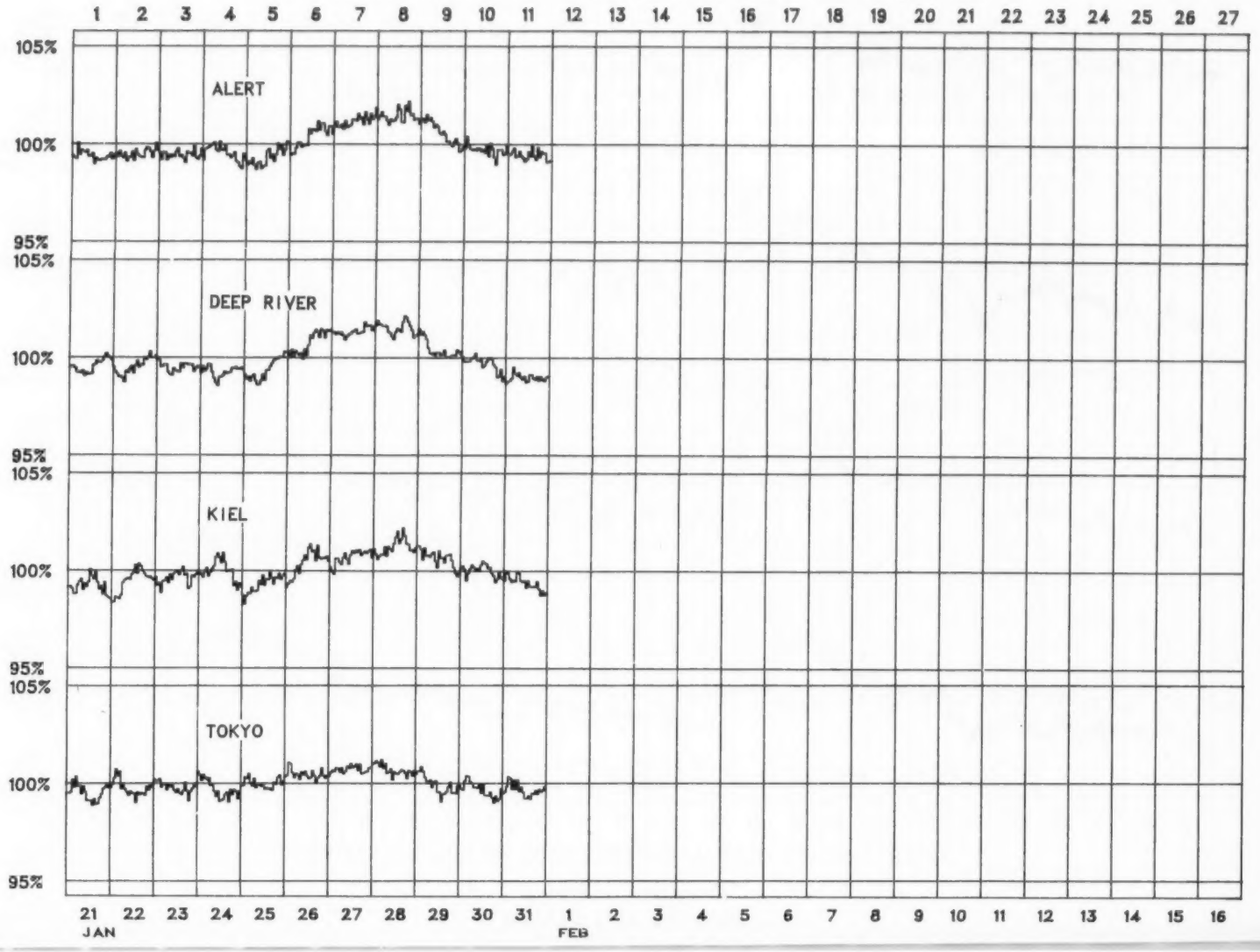
Bartels Rotation 2042 (December 8212–January 8301)

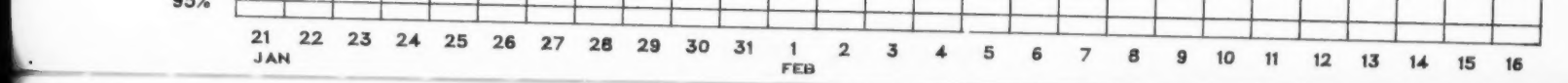


99
Jan 83

COSMIC RAY INDICES
(Neutron Monitor)

Bartels Rotation 2043 (January 8301–February 8302)





COSMIC RAY INDICES
(Neutron Monitor)
January 1983

Day	THULE Average (cts/h)/100	ALERT Average (cts/h)/100	DEEP RIVER Average (cts/h)/300	KIEL Average (cts/h)/100	CLIMAX Average (cts/h)/100	TOKYO Average (cts/h)/100	HUANCAYO Average (cts/h)/100)
1	3895	6284.4	5982.2	5405.1		3498.9	
2	3904	6296.6	5995.9	5406.7		3509.7	
3	3913	6318.6	6014.5	5420.0		3516.3	
4	3934	6367.1	6040.4	5433.8		3511.8	
5	3935	6362.3	6031.3	5433.6		3503.3	
6	3938	6382.2	6047.4	5439.3		3503.9	
7	3950	6384.4	6025.7	5453.5		3501.0	
8	3950	6381.1	6055.5	5462.7		3513.0	
9	3968	6399.0	6108.0	5472.3		3525.4	
10	3742	6043.5	5745.0	5218.8		3433.7	
11	3784	6120.0	5785.5	5275.9		3458.2	
12	3844	6212.8	5907.6	5353.6		3477.8	
13	3866	6261.8	5960.9	5395.2		3489.9	
14	3902	6298.2	5987.3	5447.6		3497.6	
15	3963	6409.4	6042.8	5502.9		3507.5	
16	3971	6387.6	6059.0	5469.4		3511.5	
17	3976	6404.0	6072.0	5469.0		3501.8	
18	3993	6407.0	6100.9	5499.4		3499.3	
19	3993	6411.8	6133.5	5530.4		3507.8	
20	3980	6436.9	6116.1	5539.6		3514.5	
21	3979	6452.5	6129.4	5526.7		3524.1	
22	3978	6459.5	6127.3	5541.0		3532.0	
23	3989	6456.0	6125.9	5550.1		3533.3	
24	3998	6462.0	6111.2	5569.6		3530.7	
25	3983	6448.7	6118.2	5532.1		3540.0	
26	4039	6516.1	6202.4	5592.2		3556.5	
27	4061	6569.2	6238.1	5609.0		3565.3	
28	4074	6584.0	6248.0	5638.5		3564.8	
29	4047	6528.5	6180.5	5606.2		3538.4	
30	4003	6472.8	6136.2	5571.1		3528.8	
31	3988	6455.1	6093.1	5535.6		3528.3	
MEAN	3953	3586.3	6062.0	5480.7		3513.7	

Data not available at time of publication.

Data not available at time of publication.

For less than 24-hour coverage, parentheses enclose the number of hours for which data are available. For Climax and Huancayo, parentheses enclose the number of section hours whenever the sum of both sections falls below 40 hours.

GEOMAGNETIC ACTIVITY INDICES

JANUARY 1983

Day		K_p Three-Hourly Indices 1	2	3	4	5	6	7	8	Sum	A_p	C_p	K_m Three-Hourly Indices 1	2	3	4	5	6	7	8	A_m	aa N	S	M	
1			2+	4-	3-	2-	2-	3-	3-	3-	20	11	0.7	2	3-	2	1+	2-	3-	3	3-	19	19	16	17	19	
2	Q4A	2-	2+	2-	2-	3-	2-	2-	2-	15	7	0.4	2-	2+	2+	2-	3	2+	2	2+	18	11	20	14	18	
3		2-	1+	3-	3+	4	2+	2	1+	19-	11	0.6	2-	1+	3	3-	4	3-	2	2	23	16	22	16	22	
4		2-	1+	2-	2+	3+	2	3-	3-	18-	9	0.5	1+	1	2	3-	3	2	3-	2+	18	17	18	13	23	
5	Q3K	1	0+	2-	2+	3	2	1-	1-	12-	6	0.3	1-	0+	2-	2	3	2+	1	1-	12	11	13	10	15	KK
6	Q1	1-	0+	1	0+	1-	1+	1	1	6+	3	0.1	1-	0+	1+	1	1	1+	1+	1+	7	5	7	5	8	CC
7	Q2	2-	1	1-	1	1+	1	1-	1-	8	4	0.1	1+	1+	1-	1+	2-	1+	1-	1+	8	7	8	7	8	CC
8	Q8A	2-	2+	1	1+	3	2	3-	3-	17-	9	0.5	1+	2	1+	2	3	2	3	3-	18	17	17	12	23	
9		3+	2+	2+	3-	2	5+	3	4+	25+	20	1.0	3-	2	2+	3	2	5	3+	4+	37	36	39	23	51	
10	D1	7+	8+	7	5	3+	3-	2+	3	39	78	1.8	6+	7	6+	5-	4-	3+	3-	3-	111	93	89	156	27	
11		1	2	3	1+	2+	3-	2	4+	19-	11	0.7	1	2+	3	2	2+	2	2+	5-	25	17	25	16	27	
12		4	4	4-	3+	3+	2+	3-	2+	26-	18	1.0	4+	4-	3	3	3	3-	2+	2	31	30	34	41	23	
13	Q6A	3-	3-	2	0+	1+	3-	2+	2+	16+	8	0.5	2+	2	2	0+	2-	3-	2+	3-	17	12	15	12	15	C
14	Q7A	2-	2+	2	1+	2+	1+	2	3+	16+	8	0.4	1+	2-	2	1+	3-	2	2+	3	17	17	16	11	23	
15	D5	4+	3+	3+	2+	3+	5-	4-	3+	28+	22	1.1	3+	3-	3	3-	3+	5-	4	3	40	46	40	35	51	
16	D4	3+	4+	4	4+	4	4	4	2	30	25	1.2	3-	4-	3	4	4	4-	4+	2+	43	45	36	43	38	
17	D3	4+	3-	3-	4-	5-	3+	4+	4+	30	25	1.2	3	2+	3-	4-	5-	3	4	4	43	57	35	31	60	
18	D2	5-	4-	4-	5+	4+	4	4	4	34-	32	1.3	4-	3	3	5-	4	3+	4	4-	47	64	41	55	50	
19		2+	4-	4-	3+	4+	3	2	2+	25-	17	0.9	2	3-	3-	3	4	3	3-	3-	28	29	28	26	32	
20		3+	3+	3	3+	1	1+	3+	3-	21+	14	0.8	3	2+	2+	3-	2-	2-	3	2	20	27	14	24	18	
21		3	4-	2+	1+	3-	2	3+	2	20+	12	0.7	2+	3-	2	2-	3	2+	3	2-	19	24	17	20	22	
22	Q5A	2	2-	3	2	2+	1+	2	1+	16-	8	0.4	1+	1+	3-	2+	3-	2-	2-	1+	14	14	11	13	12	C
23	Q9A	1	3-	1+	1+	1	1	3	4	15+	10	0.5	1-	2-	1	1+	1+	1+	3	4-	15	17	11	8	21	
24		3	4	3-	2+	3+	3+	4	5	28-	22	1.1	2+	3	2+	3-	3	3+	4	4+	33	43	26	18	52	
25		3+	3+	3-	3+	3	3	4-	3-	25	16	0.9	3-	3-	2+	3	3-	3	4-	2+	26	30	26	24	33	
26		3-	3-	3-	3+	3	3	3-	1	21	12	0.7	2+	2	2	3	3+	3	3-	1+	23	22	26	20	29	
27		2+	3	3	2	2-	2-	3+	1	18	10	0.6	2-	2+	2+	2	2-	3	3	1+	18	20	14	18	17	
28	Q0A	1-	0	2-	1	2+	3	3-	4	15+	10	0.5	1-	0	2-	1	3-	3	3	4-	19	17	24	9	32	
29		3-	3-	1+	1+	3+	5	3+	3-	22+	16	0.9	3-	2+	1	2-	3+	5-	3+	3-	30	30	30	15	45	
30		2+	3+	3+	5-	4	3	2+	3	26	19	1.0	2	3-	3+	4	4-	3-	2	3	30	27	30	34	23	
31		3+	4-	2+	2	3	2+	3	2+	22	13	0.7	3-	3-	2-	2-	3	3-	3	3-	22	27	19	19	28	
Mean											16	0.75									26.8	27.4	24.8	26.2		

Day	K_n Three-Hourly Indices 1	2	3	4	5	6	7	8	A_n	K_s Three-Hourly Indices 1	2	3	4	5	6	7	8	A_s
1	2	3	3-	1+	2-	2+	3-	2+	18	2+	2	2-	2-	2	3	3+	3	20
2	1+	2	2	1+	3	2+	2-	1+	15	2	3-	3-	2+	3	2	3-	3	21
3	1+	1	3	2+	4	3-	2-	1+	21	2	2-	3	3	4	3-	2	3-	24
4		1	2+	3-	3+	2	3-	2	19	1+	1	2	2+	3-	2	3-	3-	17
5	0+	0	2-	2+	3+	2+	1	0+	13	1	0+	2-	2	3-	2	1	1	11
6	0	0	1	0+	1+	1+	1+	1-	6	1+	1-	2-	1+	1	1	1+	1+	9
7	1	1-	1	2-	2-	1+	1	1	8	1+	2-	1-	1+	2	2-	1-	1+	9
8	1+	2-	1-	2-	3	2	3-	3-	16	1+	2	2-	2+	3+	2	3+	3-	20
9	3-	2-	2-	3-	2-	5+	3	4-	34	3	2+	3-	3	2	5-	4	5-	41
10	6	7+	6	5-	3+	3+	3-	3	103	7-	7	7-	5-	4-	4-	3-	3-	119
11	1-	2	3	2-	2+	2	2+	4-	20	1+	3-	3+	2+	2+	2+	3-	5	30
12	4-	3+	3	3	3	3-	2+	2+	30	5-	4-	3+	3-	3	2+	2+	2	32
13	2+	2-	2	0	1+	3-	3-	3-	16	3-	2	2	1	2	3	2+	3-	18
14	2-	2-	3-	1	3-	3-	2+	3	18	1+	2	2-	2-	3-	1+	3-	3	16
15	3+	2+	3-	3-	3+	5-	4	3	37	3+	3	3+	3-	4-	5-	4+	3+	42
16	3	4-	3	4+	4-	4	4	2	43	2+	4	3	4	4	3+	4+	3-	42
17	3+	3-	3-	3+	5-	3+	4+	4	44	3-	2	3-	4-	5	3	4	4	42
18	4	3	3	5	4	3+	4-	4-	48	3+	3+	3	4	4	3+	4	4	45
19	2	3-	3-	3	4+	3	3-	2+	29	2	2+	3-	3	4-	3	3-	3	27
20	3	3-	2+	3	2-	2-	3	2	21	3+	2	2	3-	2	2	3	2	20
21	2+	3	2	1+	3	2+	3	2-	21	3-	2	2-	2	3-	2	3+	2-	18
22	1+	1+	3-	3-	3-	2-	1+	1+	15	2-	1+	2	2	2	2-	2-	2-	13
23	1-	2+	1	1+	1+	1+	3-	3+	14	1-	1+	1+	1+	1+	1	3	4-	16
24	2+	3	2	2+	3	3+	4	4+	33	2+	3-	2+	3-	3+	3+	4	4+	34
25	3-	3	2+	3	3-	3	3+	2+	26	3-	3-	2	3-	3-	3	4-	2+	26
26	2+	2+	2	3+	4-	3	3-	1	25	2+	2	2+	3	3	3	3-	2-	22
27	2-	2	2+	2-	1+	3+	3	1	18	2-	2+	3-	2+	2-	2	3+	1+	18
28	1-	0	2-	1	2+	3	3-	3+	17	1	0	2-	1	3	3	3	4	22
29	2	2+	1	2	3+	5	4-	2+	30	3	2+	1+	2-	4-	5-	3+	3-	30
30	2-	3-	3	4	4-	3-	2+	3	30	2	3	4-	4	4-	3-	2	3	31
31	3-	3-	2-	2-	3+	3-	3+	3-	24	3-	3-	2-	2-	3	2+	3-	2+	20
Mean									26.2									27.6

The Geophysikalisches Institut, University of Goettingen, prepares the quiet (Q) and disturbed (D) days, geomagnetic planetary 3-hour-range indices (Kp), magnetic character figures (Cp) and average amplitude (Ap). The 10 most quiet days [Q1-Q0(10)] and the five most disturbed days (D1-D5) are ordered from most quiet and from most disturbed, respectively. A or K means "not really quiet" (A implies Ap>6 and K implies Ap<6 with either one Kp>30 or two Kp values >3-). An asterisk means "not really disturbed" (Ap<20).

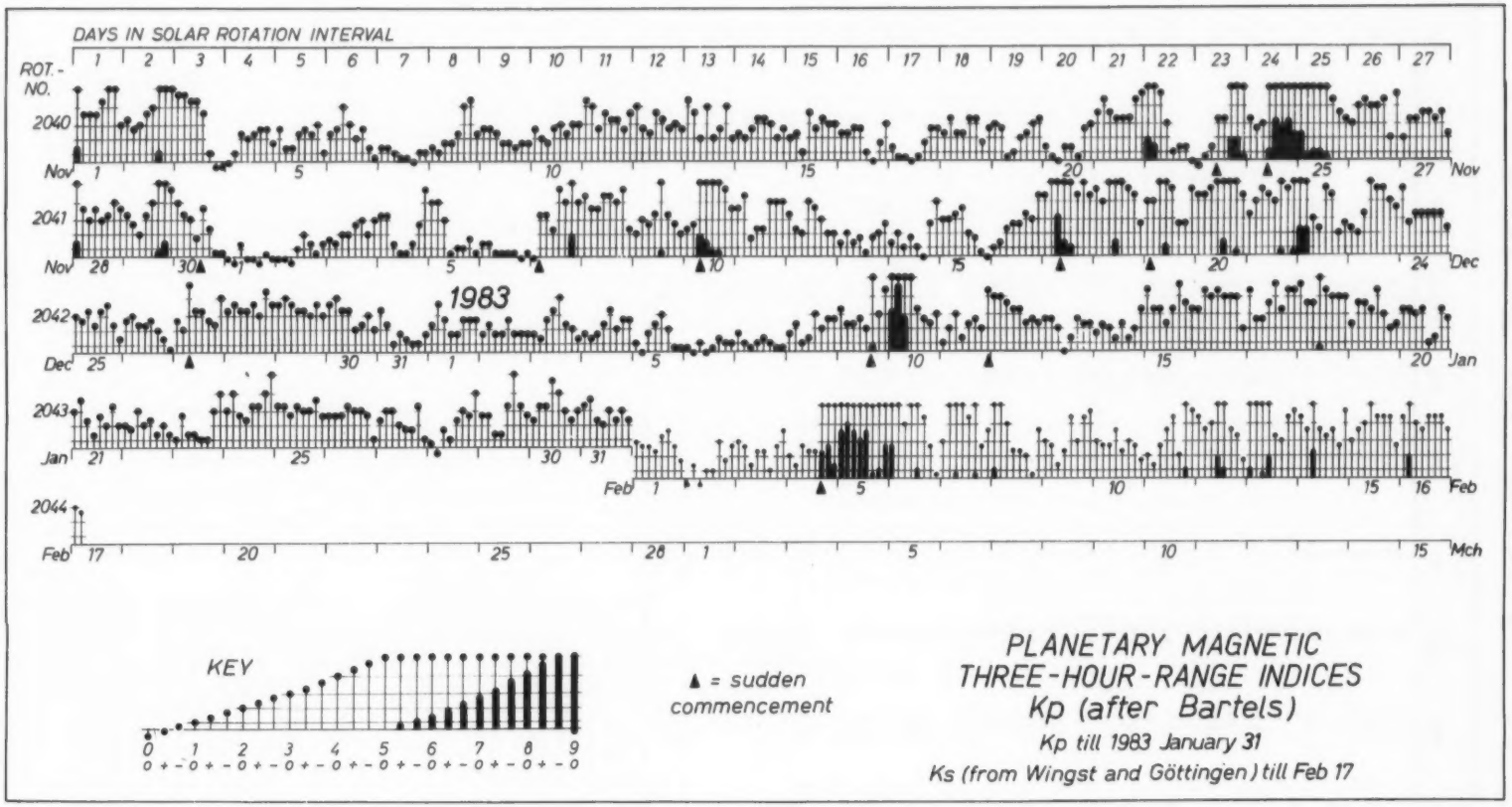
Geomagnetic 3-hour indices Km, Kn, Ks and daily mean values Am, An, As and indices aa are prepared by M. Menvielle of the Institut de Physique du Globe, Paris, France. For aa indices, daily north (N) and south (S) values and half-daily antipodal mean (M) values are given. C indicates really quiet 24- and 48-hour intervals centered on 1200 UT; K indicates similar periods with some slightly disturbed 3-hour intervals.

NOTE: All aa indices are provisional from 1 January 1981 until further notice, because of the change in the Southern Hemisphere observatory.

DAILY AVERAGE INDICES Ap

DAY	1982 FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	1983 JAN
1	41	68	20	22	20	18	12	9	28	36	2	11
2	60	107	42	30	18	10	55	12	24	32	4	7
3	35	13	48	45	9	6	26	21	10	21	9	11
4	49	12	22	19	7	2	15	32	10	8	13	9
5	37	16	21	14	6	4	18	39	9	9	11	6
6	39	3	18	6	14	15	25	199	19	11	3	3
7	26	3	5	4	14	21	107	88	35	4	29	4
8	18	11	12	5	9	15	6	12	21	12	27	9
9	15	20	10	8	16	10	23	50	6	8	18	20
10	35	16	61	5	51	10	27	10	15	11	46	78
11	45	10	47	9	32	36	28	13	14	20	20	11
12	41	8	15	6	59	48	22	14	15	16	14	18
13	54	13	11	6	62	144	10	15	34	18	6	8
14	42	11	6	8	24	153	7	14	30	12	8	8
15	18	7	10	20	26	36	3	12	8	13	11	22
16	6	4	11	10	10	50	6	12	14	9	13	25
17	30	14	19	12	6	24	16	11	21	6	62	25
18	34	20	12	20	7	24	16	30	23	12	41	32
19	36	10	8	12	24	28	10	28	17	10	34	17
20	26	12	20	8	18	24	12	24	14	6	46	14
21	21	23	32	8	9	11	15	76	11	25	37	12
22	51	38	18	4	20	16	24	135	8	30	42	8
23	29	8	9	2	20	12	17	26	5	36	26	10
24	24	12	15	4	21	50	18	22	5	83	19	22
25	42	20	52	8	17	22	20	13	15	54	14	16
26	43	11	7	24	16	27	20	84	30	26	9	12
27	12	9	24	54	32	27	11	42	16	17	18	10
28	10	6	21	56	27	21	12	14	10	28	21	10
29		13	31	35	19	22	38	9	35	32	20	16
30		15	30	35	39	23	28	12	27	13	15	19
31		20		31		25	16		34		7	13
MEAN	33	18	22	17	22	30	21	36	18	21	21	16

GEOMAGNETIC ACTIVITY INDICES


DAYS IN SOLAR ROTATION INTERVAL
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27
ROT.-NO.
2040
Nov 1 5 10 15 20 25 27 Nov
2041
Nov 28 30 5 10 15 20 24 Dec
1983
2042
Dec 25 30 31 1 5 10 15 20 Jan
2043
Jan 21 25 30 31
Feb 1 5 10 15 16 Feb
2044
Feb 17 20 25 28 1 5 10 15 Mch
KEY
0 1 2 3 4 5 6 7 8 9
0 + - 0 + - 0 + - 0 + - 0 + - 0 + - 0 + - 0 + - 0
▲ = sudden commencement
PLANETARY MAGNETIC
THREE-HOUR-RANGE INDICES
Kp (after Bartels)
Kp till 1983 January 31
Ks (from Wingst and Göttingen) till Feb 17

PRINCIPAL MAGNETIC STORMS

JANUARY 1983

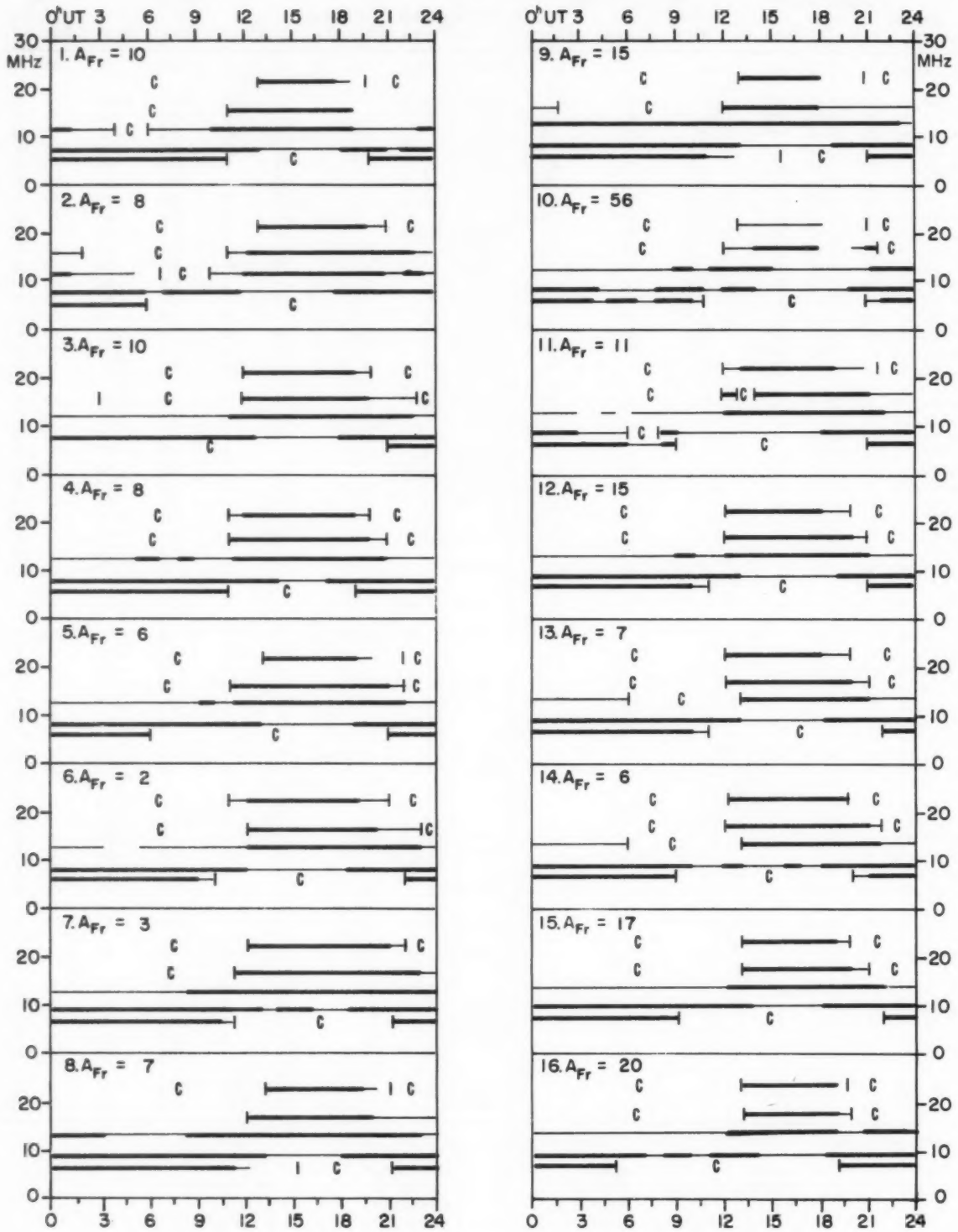
Sta	Geomag Lat	Commencement Day	Time (UT)	Type	SC Amplitudes D (Min)	H (Gamma)	Z (Gamma)	Maximum 3-Hour K Index Day(3-Hour Periods)	K	Ranges D (Min)	H (Gamma)	Z (Gamma)	End Day	Hour (UT)
HYB	07.6N	01	1300	..	..	..	..	02(5) 03(5)	4	4	121	19	03	23
COL	64.6N	09	1544	SC*	- 20	-455	-130	09(6) 10(2,4)	7	406	1510	1400	10	20
SIT	60.0N	09	1546	SC*	- 24 *	80 *	17 *	10(2)	8	--	890	710	10	20
WIT	54.2N	09	1545	SC*	7	65	0	10(1,2)	7	60	345	205	10	12
FRD	49.6N	09	1545	SC	3	42	12	10(2)	8	65	385	235	13	00
HON	21.1N	09	1545	SC	1	25	13	10(1)	7	9	310	55	10	19
JAI	17.3N	09	1545	SC	- 1.4	52	- 12		-	8	219	38	10	21
SHL	14.7N	09	1545	SC	- .4	53	9		-	8	226	23	10	21
UJJ	13.5N	09	1545	SC	- .9	59	- 13		-	7	224	47	10	21
ABG	09.5N	09	1545	SC	- 1.3	44	- 11	09(6) 10(1)	6	7	214	63	10	21
HYB	07.6N	09	1544	SC	- .7	49	- 4	10(2)	7	8	231	26	10	21
GUA	04.0N	09	1544	SC		38	- 12	10(1)	6	--	280	30	10	20
ANN	01.5N	09	1545	SC	- 2.4	58	31		-	9	329	62	10	21
HUA	00.6S	09	1544	SC	5	219	9	09(6)	7	14	638	51	10	20
TRD	01.1S	09	1545	SC	- .3	49	80		-	6	--	--	10	21
HER	33.7S	09	1545	SC*	4	40	24	10(1,2)	6	40	156	129	10	12
GNA	43.2S	09	1545	SC*	3.2	61 *	26	10(1)	7	32	250	180	10	21
KGL	56.5S	09	1544	SC	7		36	10(1,2)	9	205	981	552	10	18
HON	21.1N	11	23--	SC	1	45	18	11(8) 12(1)	5	3	93	34	12	11
JAI	17.3N	11	0300	..	..	..	..		-	6	65	36	13	01
SHL	14.7N	11	0300	..	..	..	..		-	6	91	29	13	01
UJJ	13.5N	11	0300	..	..	..	..		-	5	74	37	13	01
ABG	09.5N	11	0300	..	..	..	..	11(3,8) 12(1)	5	5	82	43	13	01
HYB	07.6N	11	0300	..	..	..	..	11(3,8)	5	5	85	33	12	21
GUA	04.0N	11	2309	SC		73	- 16	11(8)	6	--	120	40	12	18
ANN	01.5N	11	0300	..	..	..	..		-	5	125	77	13	01
HUA	00.6S	11	0303	SC		11	2	11(6,7,8)	5	10	209	38	12	22
TRD	01.1S	11	0300	..	..	..	..		-	2	164	124	13	01
HER	33.7S	11	2309	SC	6	41	31	11(8)	5	20	76	57	12	11
HYB	07.6N	14	1100	..	..	..	..	15(6) 16(4,7)	5	4	137	34	16	20
COL	64.6N	15	06--	..	..	..	..	15(6) 17(5) 18(4)	7	336	1540	950	19	19
JAI	17.3N	15	0600	..	..	..	..		-	5	111	22	16	20
UJJ	13.5N	15	0600	..	..	..	..		-	4	116	22	16	20
ABG	09.5N	15	0600	..	..	..	..	15(6) 16(4,7)	5	5	127	33	16	20
HUA	00.6S	15	1119	SC		14	3	15(5,6,7)	6	12	291	42	15	22
TRD	01.1S	15	0600	..	..	..	..		-	--	--	--	16	20
GUA	04.0N	16	0958	..	..	..	..	16(4)	5	--	60	10	16	20
HER	33.7S	16	09--	..	..	..	..	16(4)	5	20	74	83	16	21
JAI	17.3N	17	1000	..	..	..	..		-	6	108	24	18	23
UJJ	13.5N	17	1000	..	..	..	..		-	5	104	21	18	23
ABG	09.5N	17	1000	..	..	..	..	17(5,7,8) 18(4)	5	5	96	34	18	23
HYB	07.6N	17	0100	..	..	..	..	17(5,7) 18(4)	5	5	127	24	18	23
TRD	01.1S	17	1000	..	..	..	..		-	5	188	123	18	23
KGL	56.5S	17	0530	..	..	..	..	17(5)	6	47	430	224	18	06
HER	33.7S	18	08--	..	..	..	..	18(4)	5	6	60	49	18	22
HYB	07.6N	23	1400	..	..	..	..	24(8)	5	2	79	20	25	22
JAI	17.3N	28	0700	..	..	..	..		-	4	136	25	29	23
UJJ	13.5N	28	0700	..	..	..	..		-	3	138	22	29	23
ABG	09.5N	28	0700	..	..	..	..	29(6)	6	4	143	25	29	23
HYB	07.6N	28	1200	..	..	..	..	29(6)	6	3	151	26	30	20
TRD	01.1S	28	0700	..	..	..	..		-	3	158	107	29	23
COL	64.6N	29	0917	SC*		37		29(6) 30(4)	7	212	1230	760	30	19
HUA	00.6S	29	0526	SC		14	2	29(6)	7	11	467	50	29	23

Reports were received from the following observatories:

ALIBAG
ANNAMALAINAGAR
COLLEGE
FREDERICKSBURG
GNANGARA
GUAM
HERMANUS
HONOLULU
HUANCAYO
HYDERABAD
JAIPUR
KERGUELEN
SHILLONG
SITKA
TRIVANDRUM
UJJAIN
WITTEVEEN

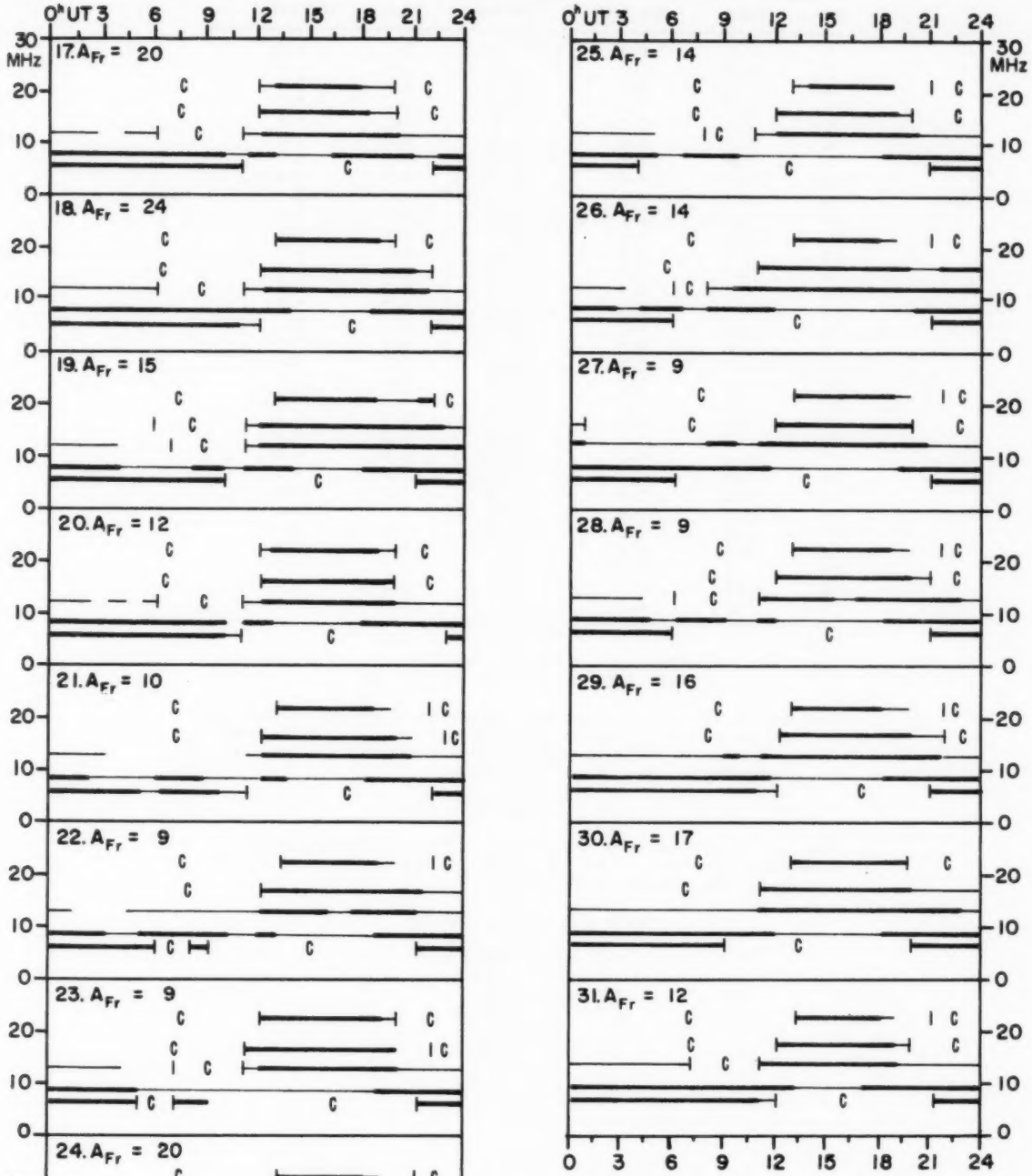
TRANSMISSION FREQUENCY RANGES -- NORTH ATLANTIC PATH

JANUARY 1983



TRANSMISSION FREQUENCY RANGES -- NORTH ATLANTIC PATH

JANUARY 1983



Field strengths from five frequencies, 6.4, 8.6, 13.0, 17.0 and 22.5 MHz, observed on a Lüchow New York circuit are represented above. Heavy solid lines represent field strengths ≥ -12 dB above 1μv/m (transmitter power reduced to 1 kW). Observed field strengths between -12 dB above 1 μv/m and -40 dB above 1 μv/m are represented by the fine line.

RADIO PROPAGATION QUALITY INDICES

January 1983

DAY	TOKYO	NEW YORK	TEHERAN	OSLO	BRACKNELL
1	5.0	5.3	5.7	5.2	6.0
2	5.3	6.0	6.3	6.9	5.6
3	4.5	6.1	2.7	6.5	5.3
4	4.5	7.2	2.8	6.2	5.0
5	4.2	7.0	1.1	5.2	5.1
6	2.7	6.5	1.4	4.9	4.2
7	3.6	8.6	2.3	6.6	6.3
8	5.8	7.4	8.0	4.3	6.2
9	6.0	4.6	3.6	4.3	7.1
10	3.4	0.9	0.4	0.4	0.0
11	6.5	4.1	5.1	4.5	3.6
12	5.3	5.2	2.6	3.8	4.7
13	5.3	5.5	4.6	4.6	5.4
14	4.5	5.1	7.7	4.3	5.5
15	4.9	6.2	4.5	5.7	5.7
16	4.9	4.1	4.8	4.7	5.5
17	4.6	4.5	0.7	4.8	5.6
18	4.0	5.1	2.4	5.9	6.6
19	4.4	5.7	4.3	5.9	5.9
20	4.8	3.7	1.5	5.2	3.9
21	5.4	3.5	1.5	5.6	5.3
22	5.1	3.6	3.1	5.9	5.1
23	6.4	3.2	2.6	5.9	4.9
24	5.4	4.6	3.8	5.9	5.3
25	5.0	5.0	0.7	5.2	5.2
26	5.0	5.6	2.0	5.4	5.4
27	5.8	4.6	7.9	5.4	5.1
28	5.8	6.0	9.3	6.1	5.8
29	7.2	6.0	9.7	5.8	4.8
30	6.2	6.7	6.3	5.2	5.2
31	7.5	6.3	6.5	6.3	5.3
MEAN	5.1	5.3	4.1	5.2	5.2

CALCULATION OF QUALITY INDICES (Q)

From all 24 hourly field strength values and from all frequencies of the same circuit a median field strength value is calculated (FD). This daily value is compared with the average value (FA) of the preceeding 27 days (1 sun rotation).

$$Q = 6.0 + 20 \log(FD/FA)/3.0$$

The quality indices vary from 0.0 to 9.9 where 6.0 is normal. Conditions are "normal" (index = 6.0), if they correspond to the average of the preceeding 27 days.

Scale for Quality Indices

0.0 - 1.0 = very poor
1.1 - 3.0 = poor
3.1 - 5.0 = fair
5.1 - 7.0 - normal
7.1 - 9.0 = good
9.1 - 9.9 = very good

SGD 463 Part I (Prompt)

LATE DATA

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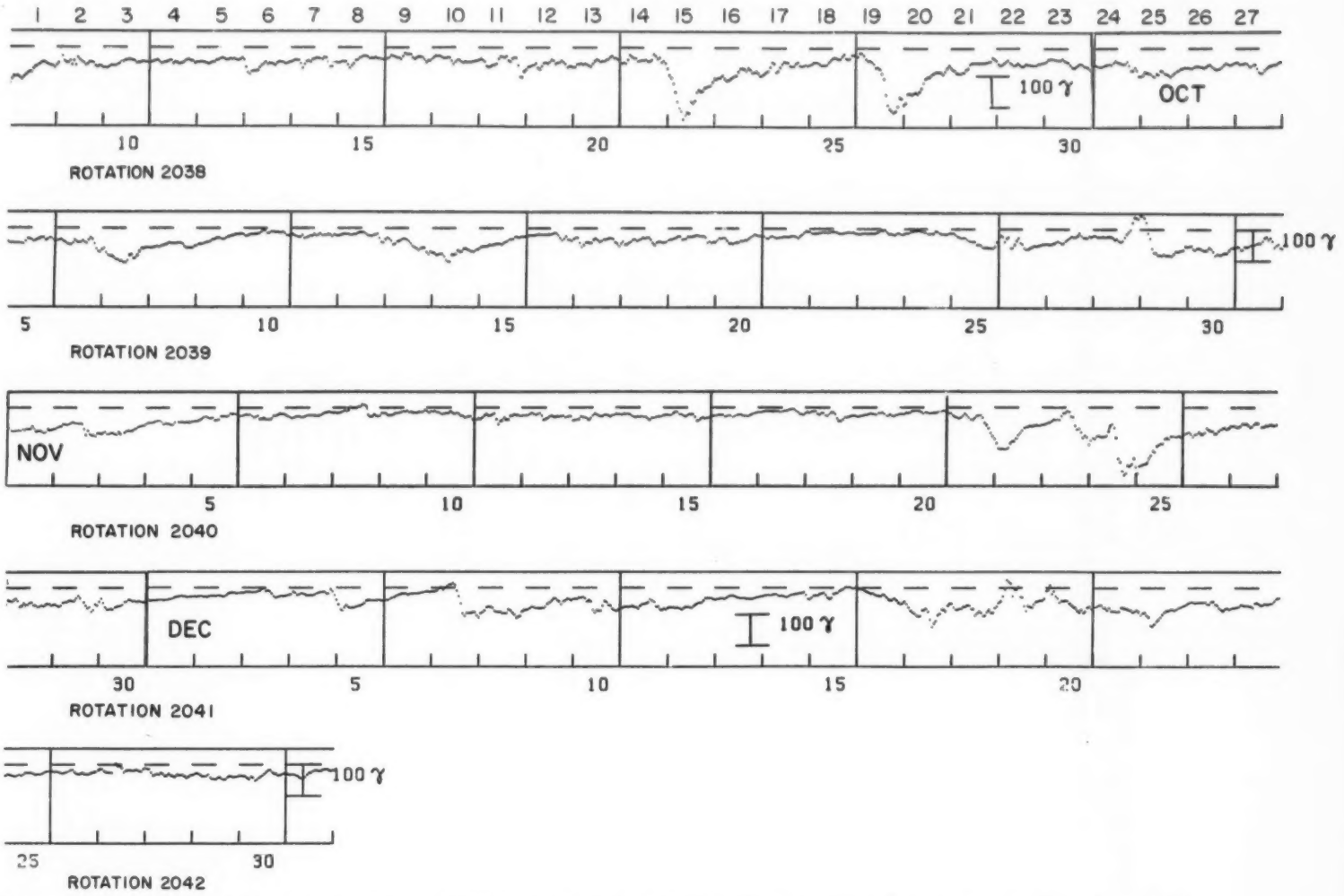
GEOMAGNETIC ACTIVITY INDICES

Hourly Equatorial Dst

by Bartels Rotation



Note: Both the sensitivity indicator placed on the last day of the month and the zero reference level change from month to month.

Note: Both the sensitivity indicator placed on the last day of the month and the zero reference level change from month to month.

HOURLY EQUATORIAL Dst VALUES (PROVISIONAL)

NASA/GODDARD SPACE FLIGHT CENTER

DECEMBER 1982

(Time-UT)

(Units-Gammas)

DAY	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
1	-41	-42	-41	-41	-40	-39	-39	-40	-40	-39	-37	-36	-34	-30	-28	-27	-26	-27	-27	-30	-29	-29	-27	-27
2	-26	-27	-26	-28	-29	-26	-27	-25	-26	-26	-26	-24	-25	-28	-28	-23	-17	-15	-15	-16	-18	-17	-16	-16
3	-15	-12	-14	-14	-15	-14	-13	-10	-8	-3	-2	-11	-8	-14	-19	-27	-32	-29	-27	-25	-26	-26	-23	-21
4	-20	-11	-16	-23	-21	-17	-15	-21	-24	-24	-23	-24	-21	-17	-15	-13	-13	-13	-19	-19	-5	-12	-24	-39
5	-54	-69	-72	-62	-55	-61	-65	-62	-63	-59	-58	-56	-53	-48	-41	-39	-41	-41	-40	-40	-39	-40	-42	-40
6	-39	-39	-35	-32	-30	-25	-23	-20	-18	-18	-19	-23	-19	-19	-18	-18	-18	-17	-15	-14	-12	-11	-13	-12
7	-11	-11	-8	-1	2	-7	0	5	9	11	15	8	-10	-27	-51	-82	-90	-80	-81	-80	-78	-79	-69	-55
8	-81	-78	-72	-62	-59	-60	-65	-75	-78	-77	-77	-82	-82	-81	-69	-73	-80	-87	-97	-92	-89	-76	-70	-70
9	-68	-64	-59	-62	-65	-64	-65	-65	-64	-58	-50	-46	-40	-33	-33	-40	-44	-53	-43	-40	-35	-36	-40	-55
10	-35	-36	-31	-32	-29	-34	-45	-39	-44	-71	-80	-72	-73	-74	-57	-42	-46	-55	-57	-67	-71	-75	-69	-67
11	-64	-60	-59	-62	-59	-57	-61	-61	-66	-57	-52	-51	-50	-46	-36	-42	-46	-60	-60	-68	-72	-65	-69	-65
12	-61	-63	-62	-64	-63	-65	-69	-64	-60	-60	-62	-64	-58	-52	-49	-47	-48	-40	-33	-32	-33	-32	-37	-38
13	-36	-35	-33	-35	-35	-30	-26	-24	-25	-28	-32	-32	-34	-33	-34	-36	-34	-36	-35	-33	-30	-29	-27	-27
14	-24	-23	-22	-24	-22	-20	-21	-25	-26	-26	-28	-31	-27	-23	-21	-20	-19	-18	-16	-17	-13	-23	-36	-37
15	-31	-24	-24	-25	-19	-18	-15	-23	-32	-37	-32	-19	-17	-16	-10	-7	-4	2	2	2	-1	-3	0	-4
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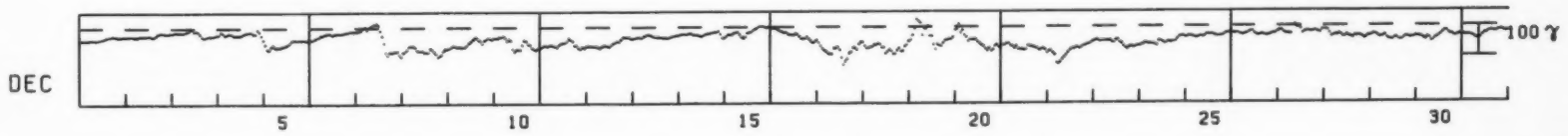

SOME OTHER SOURCES OF DATA

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